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ROCKS AND MINERALS

Mineralogy
●
Geology
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Lapidary

Black tourmaline Crystal
Overlook, Saratoga Co., N. Y.
Ralph Lapham Collection,
83 Grant Ave., Glens Falls, N. Y.

60c

September - October, 1956

Whole Number 254

69th LIST OF MINERALS

AMAZONITE, Valhalla, N. Y. Grp. of xls., good green color. 3 x 2	$3.50
MATLOCKITE, Matlock, Derbyshire. Xld. in Galena. 2 x 1½	5.00
SYLVANITE, Cripple Creek. Xld. and xlline. on rock. 2 x 2 x 1	6.00
FLUORITE, Saxony. Group of large blue xls., fine color. 4 x 3	5.00
CELESTITE, Ontario. Radiating red xlline. mass in rock. 3 x 3 x 1½	3.50
BARITE, Hungary. Grp. of yellow xls. from enclosed ORPIMENT. 2 x 2	3.50
KYANITE, Pizzo Forno. Xls. w. Staurolite xls. in Schist. 3 x 3	3.50
MIMETITE, Phoenixville, Pa. Small xls. densely coating rock. 2¾ x 1½	3.00
WILLEMITE, Beaver Co., Utah. Minute red xls. on matrix. 2½ x 1¾	2.50
LEAD, Langban, Sweden. Masses on and in ore. 2 x 1¾	3.00
ZINCITE, Franklin, N. J. Fine foliated mass. 4 x 3 x 1½. Abt. 1¾ lbs.	10.00
TOPAZOLITE, Ala, Piedmont. Small xls. on rock. 2 x 1½	2.00
TOURMALINE, Hamburg, N. J. 1¼" brown xl. in Calcite. 2½ x 2	2.50
GOLD, Romania. Beautiful xld. wires on iron-strained Quartz. 2 x 1¾	25.00
HEWETTITE, Peru. Red earthy mass. 2¼ x 1½	2.50
CROCIDOLITE, Franklin, N. J. Blue spongy mass encl. Cleiophane. 5 x 4 x 2½	5.00
APOPHYLLITE, Poona, India. Good glassy xls. on rock. 2½ x 2½	3.00
CLAUSTHALITE, Clausthal, Harz. Disseminated in rock. 2 x 1½	2.50
APATITE v. STAFFELITE, Staffel, Germany. Mammillary on rock. 2 x 2	2.50
ALLINGITE, Les Allinges, France. Masses in rock. 3 x 2	2.50
OTTRELITE, Ottrez, Belgium. Xlline. scales in rock. 2½ x 2	2.50
JADEITE, Burma. Solid white mass, no color. 4½ x 2½ x1¾. 2 lbs.	12.50
NEPHRITE JADE, New Zealand. 6 x 4 x 1½ green mass, one face pol. 3½ lbs.	20.00
HEMIMORPHITE, Leadville. Xld. with HYDROHETAEROLITE. 2 x 2	2.00
MUSCOVITE v. FUCHSITE, Tyrol. Green xlline. mass. 3 x 2	2.00
RASHLEIGHITE, Cornwall. Incrusting small cavities in Quartz. 3 x 2 x 2	3.50
WAVELLITE, E. Whiteland, Pa. Stalactitic. 3 x 2	2.50
TELLURIUM, Hidalgo Co., N. Mexico. Xlline. mass. 2½ x 2. 8 Oz.	6.00
SELENSULPHUR ("VOLCANITE"), Lipari Islands. Incrusting matrix. 2 x 2	2.50
PHILLIPSITE, Italy. Minutely xld. aggregates on rock. 2½ x 2	3.00
MIARGYRITE, Pribram. Xlline. mass w. some Galena in rock. 2 x 1½ x 1¼	3.00
CORVUSITE, Paradox Valley, Colo. Massive. 2 x 2	5.00
BERTHIERITE, Freiberg. Xlline. mass w. iridescent tarnish. 3 x 2 x 1½	3.00
WAVELLITE, Bolivia. In stalactitic form w. xld. surface. 4 x 2½ x 2½	3.50
ALLOCHROITE, Hungary. Micro. green xls. densely filling matrix. 3 x 2 x 1	7.50
JAROSITE, Bolivia. Micro. xld. on matrix. 3 x 2½ x 2	2.50
SPINEL, Amity, N. Y. Huge 4 x 3 x 3 xl., dull faces. 2½ lbs. Old timer.	10.00
STROMEYRITE, Mexico. Xlline. mass w. other ore minerals. 3 x 2	7.50
CHIOLITE, Greenland. Xlline. mass showing good cleavage. 3 x 2 x 2	5.00
CELESTITE, Sicily. Brilliant xls. densely coating Sulphur base. 5 x 3½	8.50
QUARTZ (FERRUGINOUS), Cumberland. Reddish xls. on Hematite. 2¾ x 1½	3.00
MIMETITE, Tsumeb. Grp. large xls. w. some micro. Smithsonite. 4½ x 2½	12.50
LAZULITE, Graves Mt. Numerous small xls. in sugary Quartz. 3 x 3 x 1½	3.00
MANGANITE, Ilfeld, Harz. Xld. in mass. 2½ x 2 x 1½	7.50
CHRYSOBERYL, Brazil. 1¼" group of twinned xls. Not for cutting.	7.50
BARITE, Cumberland. Grp. of greenish xls. w. xld. Dolomite. 5 x 4½ x 3	12.50
RHODOCHROSITE, Franklin, N. J. Pink xlline. mass. 3 x 2	2.50
FRIEDELITE, Franklin, N. J. Pink xlline. mass. 3 x 1½	3.00
BUSTAMITE, do. Bladed xlline. mass w. some Garnet. 3 x 2½	3.00
GISMONDITE, near Rome, Italy. Xld. on rock. 2 x 2	2.50

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ROCKS and MINERALS

PETER ZODAC, Editor and Publisher

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Published Bi-Monthly

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CHIPS FROM THE QUARRY

COMING EVENTS

Oct. 20, 21, 1956—Third Annual Fair of the San Francisco Gem & Mineral Society, Scottish Rite Hall, San Francisco, Calif.

Nov. 3-4, 1956—Rockhound Round-up, Sacramento Mineral Society, Turn Verein Hall, 3349 Jay St., Sacramento, Calif. George F. Winslow, Publicity Chairman, 1900-43rd St., Sacramento 19, Calif.

Dec. 7-8-9, 1956—Cleveland Museum Gem & Mineral Show, 2717 Euclid Ave., Cleveland Ohio—9 A.M. to 9 P.M.

Book Exhibit in Japan

A book and magazine exhibit, featuring publications from all over the world, was held in September, 1956, in Osaka and Tokyo, Japan. Copies of ROCKS AND MINERALS were on display at both exhibits.

Heads Nevada Mining Laboratory

Dr. Alexis von Volborth formerly geology instructor at the University of Helsinki, Finland, has been doing research on pegmatites at Caltech for the past school year. He liked America so much that he decided he wanted to stay here so obtained a position with the University of Nevada as head of the Nevada Mining Analytical Laboratory. He has written many papers on the Finland pegmatites and is considered an authority on them. He speaks about six different languages. His family of wife and three little girls are with him and they are all thrilled with America. The mineral volborthite was named for his great grandfather prior to 1876.

U. S. Civil Service Opportunities

The United States Civil Service Commission announces that an examination is now open for Valuation Engineer positions in the field of Mining, paying $4,480 to $7,570 a year. Most of the positions are with the Bureau of Land Management of the Department of the Interior located in the far Western States and in Alaska.

Applicants must have had appropriate education or experience. Full information regarding the requirements may be obtained at many post offices throughout the country or from the U. S. Civil Service Commission, Washington 25, D.C.

Applications will be accepted by the Northwest Board of U. S. Civil Service Examiners, Department of the Interior, 1001 N. E. Lloyd Boulevard, P. O. Box 3537, Portland 8, Oregon, until further notice.

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ROCKS and MINERALS comes out once every two months as follows:

Jan. - Feb., out about	Feb. 20
March - April, out about	April 20
May - June, out about	June 20
July - August, out about	Aug. 20
Sept. - Oct., out about	Oct. 20
Nov. - Dec., out about	Dec. 20

Lecturing in Europe

Professor Lute J. Parkinson, Head of the Mining Department of the Colorado School of Mines, Golden Colo., has been lecturing on mining subjects at the Technische Hochschule Aachen in Germany during July.

Professor Parkinson is on academic leave from Mines to accept an exchange fellowship sponsored by Denver's II Circolo Italiento. He will deliver a similar series of lectures in Italy this autumn. He has visited schools of mines in Stockholm, Sweden; Clausthal, Germany; and Keoben, Austria.

Announcement—Article by Mr. Rockhound

"Beauty From The Earth" will be the theme of a fascinating article with color photographs in the November issue of Arizona Highways Magazine. The article was written by Arthur L. Flagg of Phoenix, expert mineralogist and mining engineer for over 50 years, and known affectionately by thousands of mineral collectors over the nation as "Mr. Rockhound". The photographs were taken by Floyd Getsinger, veteran photographer of Phoenix, who will also have an article in the same issue explaining how to photograph minerals.

Collectors who want this spectacular issue for their library should get their orders in early as it will be out about the middle of October. Address Arizona Highways Magazine, Highway Department, Phoenix, Arizona.

The article will cover valuable details about collecting, and will explain numerous interesting facts about the beauty of earth's minerals. Getsinger, who has captured this beauty in color photography, will share his trade secrets.

Ida Smith, Cor. Secy. MSOA
2238 East McDowell Road,
Phoenix, Arizona.

MINERAL MICROMOUNTS

What They Are. Why Collect Them? How To Mount Them.

WILLIAM C. OKE, Curator of Minerals,
Calif. Institute of Technology, Pasadena 4, Calif.

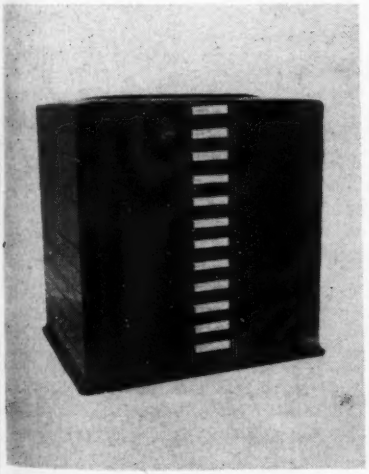
What They Are

This article concerns mineral micromounts only. There are other micromounts such as biological, entomological, botanical, etc., with which we are not concerned, so micromounts hereafter will mean those made from minerals.

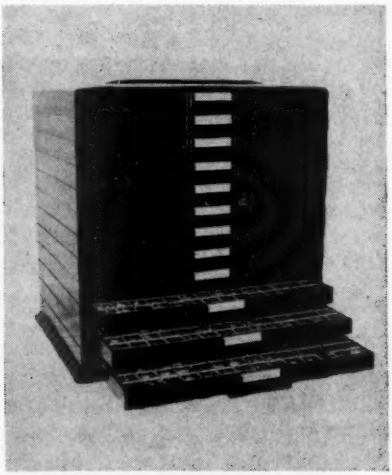
A micromount should be a single crystal, or group of crystals, with or without matrix, the overall size of such that it can be mounted in the standard micromount box. The size of the individual crystal or crystals should be such that they cannot be appreciably discerned by the naked eye but need to be magnified, preferably under the stereoscopic microscope, with a magnification of from 10X to 30X, though sometimes higher power may be needed for very small crystals. The ordinary monocular or binocular microscope is usually too high powered and does not give you the third dimension, depth, as does the stereoscopic microscope which really is a complete microscope for each eye.

Why Collect Micromounts?

Collectors reasons differ. They may collect them for their esthetic beauty, to study them in detail, their crystal habit, their inclusions, mineral associations, but to most the main reason is their beauty as seen under the microscope. In the small crystals you invariably get more perfect ones and they are usually more protected than the large ones so do not get bruised or chipped. All you need is to magnify them under the stereoscopic microscope and you have more beauty than in a hand specimen. Again, since they are so small they are usually unaltered and have more perfect form than a large crystal. You can study their association with any mineral that may be with them. Inclusions may be studied to advantage, a large crystal may be cut or sliced to make a mount showing the microscopic inclusions. This contradicts



W.C. Oke's Micromount Cabinet

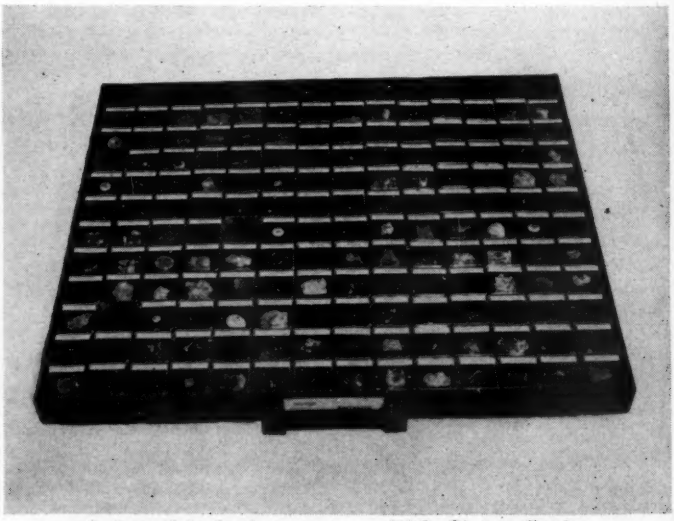


W.C. Oke's Micromount Cabinet 3 drawers opened

the opening statement of what is a micromount but in this case it is not the crystal that is the mount but the inclusions. Where several different minerals appear on one mount the genesis of them can be studied and their order of deposition may be determined.

Next, while there are some minerals that never occur as crystals there are others that never occur except in very fine crystals which cannot be studied with the naked eye or even with the hand lens to advantage. With a micromount under the microscope this can be done. Again contradicting the statement that a micromount should be crystalled, if the collection is for study purposes it is often advantageous to make mounts of rare non-crystalled minerals that they may be studied in detail. Another advantage of a micromount collection is the small amount of space a collection takes up. A plastic dental cabinet, with twelve sectional drawers which are just the right depth for the micromounts, takes up a space of 15 x 12 x 16 inches and will hold close to 2000 mounts. The same number of average size hand specimens would require almost a whole room to display them.

Any serious mineral collector who has advanced beyond the beginning stage who once spends an hour looking at a good collection of mounts under a suitable microscope is really sold on them and the only reason there are not more micromounters is the cost of a good microscope, the cheap "toys" on the market do not give good results. As a matter of fact, in the long run a micromount collection, and good microscope, is cheaper than an equivalent collection of hand specimens. The cost of a stereoscopic microscope from one of the major companies is not too high if one dispenses with the extras that are not needed for micromounts and minerals. The boxes for the mounts cost five cents or less. Cork or wood supports and labels only a fraction of a cent per mount. That leaves only your specimens and you will be surprised at how much material you can gather that costs you nothing but your time. This is more so from localities that have long been depleted of hand specimens. Lots of small pieces suitable for mounts may be obtained from friends who collect larger specimens only. When you do have to go to a dealer for the rarer species you can buy the small sizes for much less than a hand specimen and many times such



A drawerful of micromounts — W.C. Oke's collection.

small sizes are sufficient to make more than one mount so you then have duplicate material for trading with other micromounters.

There are also dealers who specialize in micromount material already trimmed to size. The collector, either of micros or hand specimens, as he gets more advanced has to depend more and more on mineral dealers if he wants to increase his collection, and the more each buys the more the micromounter has it over the collector of hand specimens in the total cost of his hobby. The answer? Save your money and buy a good stereoscopic microscope, you will be ahead in the end. Nothing will surpass the pleasure you will derive from sitting comfortably at your microscope and viewing your fine specimens, more beautiful than any ordinary hand or cabinet ones.

How To Mount Them

Pick for your mount a crystal, or group of crystals, that are undamaged and that shows a pleasing composition. Do not mount any old scraps, a small mineral does not necessarily make a good micromount. Trim it to a size that fits without crowding in the mount box. Trimming may be done with the diagonal pliers, rock splitter, diamond saw or grinding wheel. Micromounting may be compared to painting in that the individual puts his personality into it. All surplus matrix, broken crystals, or anything that detracts from the main object should carefully be removed. A handy tool for the micromounter is a grinder of the "Handee" type which may be used with small grinding wheels or a small diamond saw such as the dentist uses. When trimmed and before mounting the specimen it should be cleaned if dirty. This may be done with any specimen not affected by water by placing it in a mild detergent for a time and then using a brush, the stiffness of whose bristles depend on the fragility of the mineral. Such delicate minerals as aurichalcite may be cleaned after soaking by using a ordinary eye dropper to gently squirt the detergent on the mineral. Always rinse in clear water after the detergent and then allow to dry before proceeding with the mounting.

When trimmed, and cleaned if necessary, the specimen should be mounted centrally in the box as near the top as possible but not so high that the lid will touch it when closed. The box if clear plastic should be lined with the black paper that comes with it, or it may be painted on the inside with Eastman Kodak Co's. dull black brushing lacquer No. 4. Cardboard and black plastic boxes need no treatment. The specimen should be mounted on a support, either a small cork or trimmed piece of balsa wood of the correct height and small enough in cross section that the support cannot be seen when looking straight down on the mounted specimen. Since the thickness of the specimen will vary the height of the support will also be varied. The best way to determine the correct height is to make a mounting plate from a piece of sheet brass or aluminum about two inches square and about one-eighth inch thick. In the center drill a small hole and insert a phonograph needle so that the point projects about one-quarter inch. Break or grind off any surplus that projects from the other side. Now press down your support on the needle till it touches the plate and place loosely your trimmed specimen on the support. Use the bottom of a clear plastic micromount box as a height gauge by placing it upside down over the specimen and support. The box should come down far enough to rest on the plate without touching the specimen. If the support is too high trim it till the box touches the plate, you will know then it is the correct height for cementing in the box. Now, while the support is still on the plate, paint it with the dull black lacquer which will dry immediately, then touch a little cement to the top, and also to the underside of the specimen. Do not use too much cement, you should not see any cement on the finished mount. After a minute or so the cement will be tacky and then, under the micro-

scope, place the specimen on the support, turning and twisting it till you have the best orientation. Hold it there for a few seconds and it will remain in that position till dry. In a few minutes to half an hour, depending on the type of cement used, you can lift the combined specimen from the needle with a pair of curved point tweezers and cement it in its box. In cementing it in the box orient it so that it is parallel with one of the sides of the box and then turn the box to whichever of the four positions shows the specimen to best advantage, then place a small dot of white paint or ink on the inside of the box, close to the top, on the side facing you. This will enable you to always place the mount on the stage in the best position for viewing without trial.

The final step is the label. For use with plastic boxes it is necessary to use self-adhesive labels, ordinary gummed labels will peel off plastic when dry. The label should have the name of the mineral, or minerals, and as complete a description of the locality as possible, including the name of the mine if it is known. The more information you can give the more interesting the mount. The label may be placed on the lid or on the bottom of the box. If on the lid it should have a key number on it and a corresponding number on the bottom, otherwise if two or more mounts have the lids off at the same time you may replace the lids on the wrong boxes. I prefer my labels on the bottom of the clear plastic boxes and then use a narrow label with the name of the principle mineral placed on the lid near the edge. This allows you to see what is in the box and makes a nice display when you pull out a drawer and since the drawers are closed better than 90% of the time the amount of light that strikes the specimens is negligible and will do no harm.

The making of the label constitutes the worst chore for most collectors as fine lettering is hard to do neatly, especially when there is a lot to put on the label. I got around this by building a small hand printing press which uses standard printers type and equipment. The cost of the latter, consisting of six point monotype, together with the necessary spaces, leads, slugs, etc., was less than ten dollars. The press I made from scrap material I had in my shop, but a small hand press that will print up to 3" x 5" can be had from the Kelsey Company of Meriden, Conn., for about $28.00. I can set up the type, print half a dozen labels, and distribute the type again quicker than I can letter by hand the average label, and the best hand lettering I have seen cannot compare with the printed label. In addition to the name of the mineral and locality you may give the composition, either by formula or name, i.e., Calcite, $CaCO_3$ or Calcium carbonate. A mineral with a long formula such as macgovernite I simply use "a complex silicate". When space permits I also give the crystal system. When using six point condensed type it is possible to put a lot more on a label than when hand lettering. Your micromount is now finished and if you have chosen your specimen wisely and mounted it carefully you will feel amply rewarded for the time and trouble you have spent on it and will realize that a fine micromount collection will give you more satisfaction than the ordinary hand collection, and over the years will have cost you less in money spent, even including the cost of the microscope, as well as the saving of space which a micromount collection allows you.

Club Wanted for Ellenville, N. Y.

It seems to me that this area could stand a mineral club. Would you tell me if there are any subscribers around here whom I could contact and form a club or better still—print this letter.

George Heusser
4 Spring St.,
Ellenville, N. Y.

A NEW OCCURRENCE OF ALUNITE

By RUBY F. RENFRO
2901 Bomar Avenue, Fort Worth, Texas.

The mineral ALUNITE was recently found by the writer to occur at a locality west of Dallas, Texas, in the Eagle Ford Group of the Upper Cretaceous rocks. This locality is seven miles west of downtown Dallas and is immediately north of a settlement known as Arcadia Park along the excavation for a new Fort Worth-Dallas toll road.

ALUNITE is a basic hydrous sulphate of aluminum and potassium containing 11.4% potash, 37% alumina, 38.6% sulphur trioxide and 13% water. The chemical formula for ALUNITE is as follows: $K_2Al_6(OH)_{12}(SO_4)_4$. Alumstone is an impure form of ALUNITE containing quantities of siliceous material. When soda is also present with the above molecular combination the mineral then becomes NATROALUNITE.

In outward appearance ALUNITE closely resembles KAOLINITE. However, it has a harsher feel and it is harder. ALUNITE also frequently appears to be less earthy in texture than KAOLINITE. In sedimentary rocks the two minerals occur often under similar conditions, but seldom occur together. When crystalline, ALUNITE forms rhombohedrons which are more or less cubic in shape. More frequently ALUNITE occurs in massive form with a fibrous, micro-granular or impalpable texture. Fracture of this mineral varies from low conchoidal to splintery to earthy. ALUNITE is brittle—being crumbled into lumps and shards upon contact. The hardness is 3.5 to 4.0 and the specific gravity is 2.6 ±. The more pure specimens of the mineral ALUNITE cling to the tongue or the lips much the same way as high grade turquoise. The more siliceous pieces do not exhibit this property. ALUNITE has a distinctive though indescribable taste.

ALUNITE usually occurs associated with igneous rocks such as granites and trachytes. It is deposited as a result of rock decomposition as, for example, the reaction of sulphuric vapors and water on feldspar when pyrite in a granite porphyry is oxidized. Or it may be deposited in other rocks such as shales and sandstones from waters containing sulphuric acid which has also come into contact with sources of alumina and potash. ALUNITE is found in several western localities as coatings in cracks and fissures of certain granitic rocks and on the walls of mines under certain conditions.

The occurrence of the mineral ALUNITE in shales of sedimentary origin near Dallas is unique. One other such occurrence has been described in detail by Lloyd W. Stephenson of the United States Geological Survey, Washington, D. C., in an article published in the October, 1946, Bulletin of the American Association of Petroleum Geologists, pages 1764 to 1771, entitled "Alunite at Woodbine-Eagle Ford Contact in North-Eastern Texas." Nodules of ALUNITE occur in a definite zone which marks the contact of the Woodbine and the Eagle Ford Groups. This occurrence is both in shale and in fine sand. Presence of nodules has been noted along the contact of the two stratigraphic units at isolated localities for a distance of one hundred thirty-five miles from northwestern Fannin County to southeastern Johnson County in northeast and central Texas. It has been thought that the occurrence of the ALUNITE nodules could be used as a stratigraphic "Zone Marker" due to the fact of its uniqueness. The nodules occur in a definite layer underneath a persistent sandstone bed and are visible at few places due to the fact that the mineral is not resistant to weathering, ordinarily. It soon crumbles to fragments and then to dust when it becomes exposed to the elements. Only the fragments containing much siliceous impurity are preserved for any length of time. This factor also accounts for the lack of material found on an old or weathered exposure.

Shales exposed at the new locality west

of Dallas are stratigraphically four hundred fifty feet higher than the above described deposits and are a part of the upper Eagle Ford Group known as the Arcadia Park shales. The zone of the ALUNITE is approximately sixty feet below the base of the Austin Chalk which forms a prominent escarpment. Discovery of ALUNITE at this locality and stratigraphic position rules out establishing the use of the occurrence of the mineral as an outcrop marker as a rule of thumb. No doubt it will be useful locally in correlating stratigraphic sequences. The nodules are contained in an ocher brown shale about three feet thick. The shales above and below the brown finely laminated shale are blue grey to black when freshly exposed. The dark shale below contains a quantity of finely crystalline pyrite aggregates with occasional coatings of chalcopyrite. The ALUNITE occurs in two definite layers of bands at the top and at the bottom of the brown shale. The upper layer consists of two bands of the material about four inches apart. The deposits are thin and range from a streak in the shale to nodules four to five inches in diameter and about an inch and one-half thick. The lower layer is a single band of the material of similar dimensions. Although the material is more or less fragile and crumbly, the writer collected an abundance of good specimens. ALUNITE from this deposit fluoresces a brilliant white under both the long and short ultra violet wave. An unusual length of afterglow of a pale green color is noted.

Above and below the brown shale zone ALUNITE also occurs intercalated with gypsum crystals which form an encrustation surrounding large calcareous concretions. The gypsum is mostly crystalline with individual crystals tabular and averaging one inch in length. Some of the selenite is fibrous, however, but not satiny. The crystals have inclusions of clay, sulphur and earthy ochers of various colors. The gypsums make interesting specimens in their own right, and the writer has collected many of them previous to the ALUNITE find from several localities in the vicinity. At this locality the ALUNITE has filled the void spaces between the gypsum crystals and has been deposited parallel to the long dimension of the fibrous gypsum. Not many of the specimens collected here exhibit fluorescence. ALUNITE does not occur with the gypsum on many of the concretions, although the gypsum almost always encrusts the concretions found above the brown shale zone. The crust of gypsum-bearing material soon breaks away from the concretion, crumbles up and is washed away. However, the writer was fortunate to be on the spot when several of these large concretions were freshly dug up and obtained good specimens of the material containing ALUNITE. Rarely the ALUNITE occurs in crystalline form in cracks and fissures in the concretions and occasionally coats the small calcite crystals found in the pockets inside the concretions.

It is difficult to ascertain whether the ALUNITE always occurs under certain conditions of sedimentation and is therefore a facies constituent or whether it is a product of secondary deposition and enrichment alone in this locality. Enough evidence has not yet been revealed to substantiate either premise.

Areal extent of the concretions having ALUNITE deposited on them was not readily discernible due to chaotic conditions in the road excavations. The ALUNITE layers in the brown shale were traced for a distance of four hundred feet along the strike of the formation. The ALUNITE material disappeared into and under weathered overburden at either end of the fresh excavation. It is apparent that there is insufficient amount of this material to be of economic value in the production of potash.

The writer is extremely fortunate to have come upon the deposit of this mineral while the excavations were still fresh and while the property was accessible. Exposures will be covered and lanscaped when the toll road is completed.

THE MICRO-MOUNTER

Conducted by Neal Yedlin, 129 Englewood Dr., New Haven, Conn.

It has been too long since the last column (Jan.-Feb. 1954) and we've been collecting specimens, letters, information and gossip relating to micro-mount collecting, mounting the first, and throwing all the rest into a large envelope for future use. Well, the future has arrived, and herewith are some letters, notes and personal memoranda for your perusal. In 2 years we have added some 500 m/ms to the collection, making a total as of July 15th (when this is being written) of 4403 mounted specimens, all of them first rate; most of them superb. We've set up some locality collections . . . Franklin, N. J.; Paterson, N. J.; Langban, Sweden; Laurium, Greece; Palermo Mine in New Hampshire; a collection of radio-actives, synthetics, and "old timers." Sources have been the dealers (Watch their ads. When something is of good m/m quality they say so), other collectors, museums, (Oh, yes. All museums and colleges will swap for worthwhile material) and our several old standbys—Perloff, Desautels, Cosminsky, Parnau and the boys at the New York Mineral Club.

To so many m/m collectors who've sent stuff to us—Thanks. We wish there were space here to name you all.

But enough. Phil Cosminsky sent a swell letter on April 11, 1954. Here, in part, is what he has to say:

"Dear Neal:

As you know, I started collecting m/ms several years ago and the first thing I did, even before I acquired a microscope, was to gather all the available literature on the subject. My intentions, of course, were to follow in the footsteps of those who had perfected techniques etc. Right off the bat I stumbled into trouble. All the articles and all the mounts I had seen called for the use of corks as mounting posts. I could not find suitable corks.

So I settled on the next best thing, balsa wood. This is easily acquired in 3 ft. long strips, in various sizes—1/4", 5/16", 3/8" square—at a cost of 3-5c a strip from hobby shops. I soon found that this was superior to corks, at least to me It could be trimmed with a sharp penknife to fit the specimen at hand and cut off to the proper length with a jeweler's saw blade or a single edged razor blade. If it failed to sit up square a few strokes across a piece of fine sandpaper took care of that.

In looking over a lot of collections I had noticed that many of the better and smaller specimens were detracted from by the display of a large section of Portuguese oak bark (cork to us neophites, Ed. Note) in the field of sight. Also, some of the mounts showing single xls were awful—wire, thumb tacks, etc.

With the balsa wood I mount diamond xls and other single xls as small as 1/16", and when you look at them you see the xl, period.

The biggest trouble I had with the balsa wood mounts was the fact that one might not set up by itself while I was working on another, especially if the specimen happened to be a little large. This led to another trick, now perfected. Let me summarize:

Equipment I Use

2 pieces of Alnico magnet 7/8" diameter by 2 1/2". (Other magnets can be used, but I had these on hand.)

1 box steel thumbtacks.

1 brass tweezers.

Assorted sticks of balsa wood.

1 flat steel scalpel (or single edged razor blade).

1 bottle Markwell Dry Pen ink (2 oz. can be obtained at most paper supply houses).

1 small paint brush.

1 tube Testor's household cement (I

like it because it dries more slowly than others).

Procedure

I select a dozen specimens to be mounted. Examine them under the 'scope and make up my mind which side goes up. Starting with the smallest, I take a 6" or so stick of the right size balsa, trim it to a tapered end large or small enough so that it will hold the specimen without showing under it. If the m/m is hard stuff it can be pressed into the end of the stick and will make its own seat. If soft a little shaping will usually make a nice fit. Then I hold the stick upright with the specimen in place while I lower a box upside down over it. Mark the proper cut off place with my fingernail, remove box and specimen, saw off the pedestal, check it for square base, and then stick a thumb tack in the base. Then I cement the specimen in place, grasp the tack with the brass tweezers and set the assembly on the top of one of the magnets.

With the magnets I use, six tacks will almost automatically arrange themselves around the rim of the end, following the lines of force.

By the time 12 specimens have been fitted and cemented, the first ones are dry enough to work on. Next step is to pick up #1 with the brass tweezers and paint the pedestal. I have tried flat black paint, India ink, and black lacquer, but finally settled on the Markwell black ink. (Ed. note: "Dy-An-Shine" shoe polish works swell, too.) A brush dipped in this is placed in turn about the middle of each side of the wood and the ink spreads itself through the pores of the wood. And it dries so fast that by the time the last one is painted the first ones are ready to be glued in the boxes.

The beauty of the whole thing is in the fact that the thumb tacks give a good handle to hold, the magnets keep them upright while drying and the Markwell ink dries fast enough so that a dozen nice mounts can be prepared in one sitting. And—as I said before—mounts prepared this way are strictly mineral specimens when properly lighted and viewed through a good 'scope. No cork showing, no gadgets to detract from the specimen itself. And the materials are cheap."

We've switched to balsa wood. . . Better than corks. And cheaper. Make sure, when you buy the stuff, that you get the nice white, soft wood, free of grain. Works best.

Fooling around with a piece of Laurium, Greece slag we noted a beautiful cubo-octahedron of galena, nestled among laurionite and phosgenite xls. This looked like a secondary formation, built up from the lead residues in the slag, or perhaps from the breakdown of the lead oxychlorides. We decided to clean up the vug, exposing the galena as the major interest in the specimen. (We know, we know. Who ever heard of ignoring laurionite and phosgenite for galena? But wait.) A smaller xl of galena was found in the vug, partially hiding the major cube. We decided to sacrifice this one, but it wouldn't snap off. It was soft and sectile, not brittle. We jumped the magnification of the 'scope to 90 X and realized the xl wasn't galena at all, but native LEAD!! This was indeed a find. We checked with other specimens and got the same results. Soft and sectile. Some of the xls seemed flat and tabular rather than cubic, and some were skeletal. Dana doesn't mention the occurrence, and we have not yet checked the available literature. We think it is new. We'd like all you m/m collectors to check your Laurium specimens and let us know what you turn up. It's a great feeling to have new finds made by micro-mount collectors.

We should like to mention a collector-dealer who has done as much to assist and abet the m/m collector as anyone we know. His ads in ROCKS AND MINERALS invariably state that his specimens are for the discriminating collector. And they are. All the material we have ever received from him has been of superb quality, accurately and fully labeled, and tops. He has developed, too, a black plastic box, obviating the necessity of inserts or painting. The Micro-mounter express his thanks and appreciation to a fine mineralogist: Mr. Hatfield Goudey, formerly of Gabbs, Nevada, but now of 165 Moana Lane, Reno, Nevada.

ADVENTURES OF AN OCTOGENERIAN ROCKHOUND

By ERNEST J. SAWYER F.R.S.A.

9 Country Club, Wynberg, Cape Town, South Africa

The writer, who is an old man of 83 years of age, has for many years wandered into out of the way places in South Africa, Rhodesia and the Belgian Congo in search of mineralogical objects for his museum near Cape Town. He now gives you some of his adventures in pursuit of his hobby.

It was a hot sultry night and we were travelling in a sports model car through a dense forest in the Belgian Congo. I was seated with the driver while two other men were in the dickey seat at the back. The hour was 2 a.m. when suddenly I saw something in the road.

"Look out, Frank" I called to the driver, "There's a lion in front of us".

"Duck, you fellows in the back" shouted Frank.

Frank pulled up just in time to avoid running into a full grown and angry lion who stood blocking up the road. First he growled, then he roared and made as if he was going to spring on us. And a full grown angry lion is not a slight matter as we well knew.

The driver hooted his horn and turned his lights full on. Fortunately the lion decided to make off into the jungle. But what about the two men trapped in the back seat?. For they had closed the lid forgetting that they could not re-open it. We dare not stop to release them, but Frank drove on until we reached a small forest village. When we opened the dickey seat the two men were nearly dead with the heat and wellnigh suffocated by the dust that had got into their hiding place.

Another time I was in the Stormberg Mountains that rise to nine thousand feet above sea level. With a lady friend I had been searching the cliffs near Leeuwkuil (Lions' drinking place) searching for chalcedony and other stones. Our way home took us along these cliffs and nightfall set in before we could find a place where we could descend in safety. Darkness increased and deep in the valley we saw the lights of the farmhouse for which we were bound. One false step and we should have been dashed to certain death. Hours went by and then, by providence, we found a sheep track which brought us up to home and safety.

My most successful hunting ground is at a place called Kakamas which lies on the banks of the mighty Orange River which, at that point, runs through the three big deserts of Namaqualand, Bushmanland and Bechuanaland where nothing grows but small bushes upon which the famous Karakul sheep feed. These sheep are only reared for the lambs that they

A view of the veld at Kakamas, South Africa. This ground is covered by semi-precious stones while the koppie at the back contains jasper and other attractive stones.
Photo by E. J. Sawyer

produce and which are worth $12 each being killed at birth to make those famous Karakul coats so much in vogue among ladies of fashion.

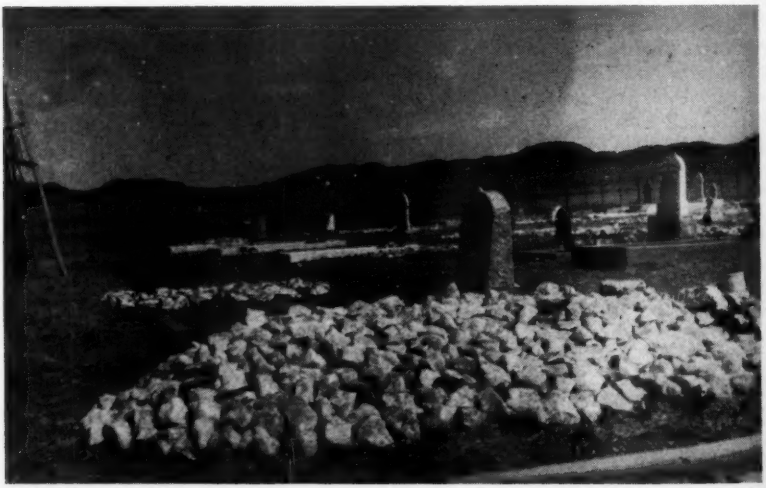
It is at this inhospitable spot that I have, over the years, found many tons of semi-precious stones for which I have always found a ready market.

I can best explain what I have found there when I tell you that no flowers grow and are thus unobtainable. So in the town cemetery at Kakamas all the graves are decorated with semi-precious stones of many kinds. One sees graves decorated by delightful rose pink crystals, amethysts, amazonite, beryl, Iceland spar, gleaming white desert crystals, and quartzes of many hues.

All these stones, and many other varieties, are collected in the nearby deserts. Near Kakamas the Orange River rushes over two waterfalls, one being the Aughrabies Falls which have a sheer drop of more than 400 feet into the boiling chasm below. Near there I have found delightful agates and other stones while there are huge rocks, larger than a house, composed of jasper of a military red tint. The water falls into a huge pit which has the reputation of containing millions of diamonds which, however, are inaccessible owing to the depth of the pit. The other waterfall is known as the Neus and is remarkable for the number of Tiger Eye (Crocidolite) pebbles that one gathers in the river bed. Nearby, in a disused diamond mine, there are millions of Namaqualand jaspers, each pebble being rounded and bears variegated coloured bands. One pebble may contain bands of blue, red, yellow, mauve and orange. A few miles away is a mountain composed entirely of amazonite of a remarkable vivid blue blending on with the blue of the sky itself.

On one occasion I was working on a big sheep farm not far from the Drakensberg Mountains. This farm is at an elevation of nine thousand feet or more and contains a number of big caves—some of them large enough to contain three thousand sheep.

One day I was working in a large cave that had only a very small entrance. This entrance was less than 20 feet across but it opened out into a cave more than 150



A grave in the Kakamas cemetery covered with rose pink crystals. This cemetery is as unique as it is beautiful.

Photo by E. J. Sawyer

feet wide and much deeper in depth. You can therefore see that it is a very large cave. I had with me a native lad and a large sheep dog, Bobbie by name.

As we were digging the native suddenly called out "Slang, Slang". Slang is the equivalent of snake in the English language. And there, coming rapidly towards us was a large Ringhaal, one of the most deadly of South African snakes. Twenty minutes after you are bitten death ensues while the saliva of the reptile is also dangerous. On came the snake spitting on everything that came in its way. While I attacked the snake with my spade it covered my trousers with its beastly saliva. Had it gone into my eye I should have been blind for days.

Luckily the dog Bobbie attacked the snake and while the duel was in progress I managed to kill the snake; we were safe but much agitated by our narrow escape from death.

Once, in the land between Northern Rhodesia and the Belgian Congo, I was hunting round for rocks in a dense jungle when I was suddenly confronted by a company of Askaris (native soldiers). I did not know their language nor could they understand mine. Their leader was certainly a very angry man and I thought that he was going to attack me. Instead he pointed with his bayonet in a certain direction and I walked, deciding that discretion was the better part of valour, especially as he emphasized the point by keeping the point of his bayonet at my back. Eventually we reached an outpost where the captain after regaling me with a much needed beer saw that I reached my quarters in safety.

I could tell you much more but think this is sufficient to indicate to you that a rockhound's life in Africa is not always easy. Lions, hippos, snakes and numerous other wild creatures, to say nothing of crocodiles, are often found in awkward places while the deserts like the Kalahari in which one travels for 180 miles without being able to obtain water, petrol (gas) or food all adds to the difficulties of the South African rockhound.

PS—At the present moment I am far into the Free State where, on the banks of the Caledon River I am picking up the most delectable of agates.

The Orange River at Kakamas where both tiger eye and agates can be found.
Photo by E. J. Sawyer

WORLD NEWS ON Mineral Occurrences

ITEMS ON NEW FINDS ARE DESIRED ... PLEASE SEND THEM IN.

ALABAMA—A bed of brassy-yellow pyrite several feet thick extends northeast for several miles from near Dean post office in Clay Co., Ala .

ARIZONA—Minerals and Gems, Box 8072, Albany, N.Y., have donated an interesting specimen consisting of tiny, yellow grains of native gold in dark brown limonite—small, greenish, radiating masses of malachite also present.

"Specimen comes from a mine somewhere in Yuma County, Arizona."—on label.

ARKANSAS—In the March-April 1956 R & M, p. 246, mention was made of a large diamond being found March 4, 1956, at the Crater of Diamonds, near Murfreesboro, Pike Co., Ark. The Crater of Diamonds is an abandoned diamond mine (the only diamond mine in the U.S.) that has been opened up as a tourist attraction.

We have a letter from Howard A. Millar, Manager of Crater of Diamonds, though it is dated May 23, 1956, it arrived too late to get in the last issue. Part of the letter reads:-

"You might be interested in knowing that the large diamond is now on the wheel. We talked to the cutter last week and he informed us that he had started cutting. He also told us it would without a doubt be the finest diamond in both quality and color ever cut in America. Of course much larger diamonds have been cut, but few diamonds have been found in the world of such fine color and quality combined.

"You might be interested in talking to our cutter, if so he is Mr. Harold Branch of Schenck & Van Haelen, Inc., 56 W. 45th St., New York 17, N.Y. If you are interested I am sure he would give you the information on the finess of the diamonds found on this Crater for an article. He has cut most all the gems found during testing and also many for the people who have found them as tourists and Rock Hounds.

"We have had 31 diamonds found here during April, and 20 so far during May. The largest being 1.87 cts."

CALIFORNIA—The following letter dated March 29, 1956, was sent in by Douglas G. Brookins, 717 Brown St., Healdsburg, Calif:-

"Here is some information which I thought you might find useful: during the drilling of another well at the Geysers in Sonoma Co., Calif., a comparitively rare mineral, metastibnite, was found to occur sparingly in several veins in siliceous sinter. The mineral was analyzed and determined to be metastibnite by Minerals Unlimited in Berkeley and is usually associated with stibnite and some sulphate material. The mineral is present as large red-orange stains with black stibnite stains against a white sinter background and is quite showy. If you wish, I will send you a specimen of it. As I said before it is quite rare and the only other possible localities for this mineral that I could find were in Dana's "System of Mineralogy Vol I" and in Bulletin 136, "Minerals of California," pub. by the State Div. of Mines. The former lists a locality in Washoe Co., Nev., and the latter lists a spot in Inyo Co., Calif.

"That this rare mineral should be found

at the Geysers will probably come as no surprise to many people as many other unusual minerals have been found there, including boussingaultite, mascagnite, tschermigite, halotrichite melanterite, miloschite, pentahydrite, pickeringite, voltaite, stellerite, and some species which are still being studied for their determination."

COLORADO—"Under separate cover I'm sending a rock to identify. It is from Colorado. Some friends of ours made a fishing trip out there and found this in some stream bed. For no reason they picked it up and brought it to us for a yard rock—just because it was round and heavy, I guess. It didn't look like granite, so Ned flaked a piece off the side. Couldn't tell much about it so he put it in the saw and cut a slice and polished it. I can see some crystals in it, also a metallic mineral. What is it?

"The young fellow who gave us the boulder fished in some stream near Denver, Colo. (west of the city). That would be in Jefferson County."—letter dated—June 31, 1956, from Marie Kennedy, 375 W. Kansas, Blackwell, Okla.

The specimen consists of lath-shaped feldspar xls (labradorite) in dark gray (almost black) matrix; small masses of brassy-yellow pyrite are also present.

CONNECTICUT—The following letter, dated June 18, 1956, comes from Howard Pate (Fluorescent House), Beach Place, Branford, Conn:-

"Many large rock cuts are being made on the new Connecticut Turnpike which will run from Greenwich on the New York line to Killingly on the Rhode Island border. Small crystals of calcite and quartz on trap rock have been found in a huge cut at the junction of North High Street and Laurel Street in East Haven (New Haven Co.), Conn This junction is about a hundred feet north of U.S. No. 1.

"In Branford (New Haven Co.), a few hundred feet north of North Main Street, just off North Ivy Street to the right is green fluorescing hyalite in thin coatings on granite which have been blasted out for the Turnpike. This fluoresces quite nicely. There is one big slab about a foot thick and five or six feet in diameter which is well coated with hyalite and makes quite a display at night under the Mineralight. Needless to say no attempt was made to move this slab but many small specimens were gathered. Ask permission at Rowley's Trailer Park at the corner of the above streets to look for the hyalite.

"At the East Haven location it is getting harder to look around as the local Police Department is starting to chase away collectors from the construction area but if one is quick he can get a few nice specimens before a Police car drives up. The police are not against the collecting itself but want to prevent young boys from playing with the heavy construction machinery as some vandalism and damage to machines have resulted in some construction areas."

Three specimens were received from Mr. Pate. One was a thin gray granite slab, heavily stained brown by iron and on the iron-stained surface was a thin deposit of colorless opal that fl. green. This comes from Branford. The other two specimens come from East Haven. One consists of colorless calcite xls associated with deep black smoky quartz xls on black basalt (trap rock). The other consists of colorless calcite xls and purple amethyst xls—also on black basalt.

DELAWARE — Small black biotite plates in gabbro have been found at the old Hubbard quarry in Wilmington, New Castle Co., Del.

FLORIDA—"I am an amateur lapidary and piscatologist and live in Nokomis, Fla. In Florida I can do very little lapidary work, due to the scarcity of minerals, and therefore I do mostly fossil work.

"I am sending you a few of the items I have found in Nokomis. They are carnivorous shark teeth, mollusk eating shark teeth, and fossil jaw plate of a fish.

"Other things I have found in Nokomis are—mammoth tooth, many horse teeth,

sloth teeth, bison teeth, whale vertebrae, sabre-tooth tiger tooth, and many forms of bones. I have found also many fossil shells and a fossil sand-dollar. Almost all my teeth were found on the beach."—letter dated May 3, 1956 from E. Engman, Box 87, Nokomis, Fla.

Among the items received from Mr. Engman were 12 fossil shark teeth, loose, black (with bluish-gray tips) that averaged 1/2 x 3/4 inch in size and a loose, black fossil jaw plate of a fish.

Nokomis, in the S.W. part of Sarasota County, is on the Gulf of Mexico.

GEORGIA—The following note on an unusual garnet appeared on p. 19 of GEORGIA MINERAL NEWSLETTER, Spring, 1956, published quarterly by the Georgia Geological Survey (Dr. A.S. Furcron, Editor, 19 Hunter St., Atlanta, Ga).

"An unusual garnet has been collected by Mr. Gilbert Withers between Canton and Ball Ground (both in Cherokee County, Ga.). It is 2 cm. across, dark red apparently of gem quality. Its index of refraction is 1.802, its unit cell dimensions about 11.59A., which place it in the spessartite-almandite group. A little Mn is revealed by a bead test, the garnet is identified as almandite.

"This garnet is unusual because its faces all belong to two forms, cube and octahedron, both of which are rare on garnet."

Vernon J. Hurst.

IDAHO—In the vicinity of Avon, Latah Co., Idaho, rough xls of black tourmaline occur in pegmatite.

ILLINOIS—Robert Kissick, 7140 Theodore Pl., St. Louis 20, Mo., has donated a number of specimens which he had collected. Among the specimens was a dark gray chalcedony from Marion, Williamson Co., Ill.

INDIANA—"Interesting pockets of calcite and quartz are found in the Rogers gravel pit (which is more like a huge quarry) just north of Bloomington (Monroe Co.), Ind., on the old 37 highway. The deposits are not spectacular but some very nice pieces may be taken. The owner is not quarrying there now so one can collect quite safely."—card dated July 19, 1956, from Doug Rae, 1207 E. 10th St., Bloomington, Ind.

"I am sending you another box of minerals from Indiana so you will not think that I am just a flash in the pan. Incidently I got the flash in the pan, too, and will send it to you some day.

"So far there have been quite a few people stop to see me. I don't know how they find me but they do. Tomorrow Mr. Walter Reeves is coming. I like him.

"I am sending you also some more pieces of Indiana agate. I got enough to tumble a few pieces and slab some too. I hope you like the two tumbled ones sent."—letter dated Aug. 4, 1956, from Harold S. Johansen, RR 1, Box 266, Fortville, Ind.

Mr. Johansen works in a sand and gravel pit in Hamilton Co., Ind., near Fortville which is in Hancock Co. (see May-June 1956 R&M, p. 249). He sent us a number of pebbles from the pit, two of which were nicely polished, one is reddish and the other brownish. These were polished in a tumbling barrel.

IOWA—Michael Papcun, RR1, Melrose, Iowa, has sent in a series of interesting calcites. One consisted of white dogtooth xls in cavity of dark gray limestone. Another was a dark brown coarse xline calcite (fl. orange under long wave) which occurs in veins up to an inch thick in dark gray limestone. Still another consists of dark brown calcite xls on dark gray limestone.

"Found at a coal strip mine about 5 miles southwest of Monroe, Iowa, in Marshall County."—on label.

KANSAS—"I am mailing you a limonite nodule I picked up about 4 miles south of Coyville, Kansas, in a roadside ditch. This piece, also a piece of hematite, (I think) came from about a mile north of Highway 96 in N/W Wilson County, Flint Hills Woodland section."—letter dated July 26, 1956, from Glen E. Kiser, Douglass, Kans.

A most interesting 2¼ inch dark brown nodule consisting of a nodule within a nodule (both limonite) was received. The other specimen was a dark red hematitic sandstone.

KENTUCKY — One of our good friends in Kentucky, Ben E. Clement of Marion, specializes in fluorite. His collection of fluorites is so outstanding and due also to his many articles in various magazines on the mineral, that he has been dubbed "Mr. Fluorite." One of his latest writings is a 4-page brochure titled "Fluorspar from Marion, Crittenden County, Kentucky, that was written for Marion Chamber of Commerce upon the visit of "Out of the State" special bus of business men, April 1956.

In the April 20, 1956 issue of THE CRITTENDEN PRESS, (Marion, Ky.), appeared a 2-column item titled: "Ben E. Clement's Mineral Collection attracts World-Wide attention." In the item is this interesting paragraph:-

"The collection (Mr. Clement's) has attracted students of geology and mineralogy from every state in the Union, as well as India, Scotland, England, Germany, Belgium and other countries."

All collectors interested in fluorite should pay a visit to Marion, Kentucky, which is in the heart of the great Kentucky—Illinois fluorite area and—pay Mr. Clement a visit to inspect his very fine collection.

LOUISIANA—"A long time ago I promised to get some transparent halite cubes for you. Since the good crystals do not occur in the salt mines of south Louisiana I shall have to wait till I can get to the Winnfield mine (at Winnfield, Winn Parish, La.). I have had so many requests I shall try to bring back a load of them.

"I had once mentioned the salt mines here to you. The invitation still holds. We do lots of mineral evaluation work for the Avery Island people and we could surely get it fixed for you to go into the mine."—letter dated May 31, 1956, from Mark W. Mitchell, 820 Tulane, Lafayette, La.

The Editor has accepted the invitation and will try to pay Mr. Mitchell a visit before the year is out. A trip underground is a *treat* to the Editor.

MAINE—Several months ago we received a specimen of lustrous, black xline hornblende set in a dark gray matrix.

"Found this on a rock pile in Lyman (York Co.), Maine—total weight 36 lbs." —on label sent in by Wm. H. Robbins, RD 1, Hampton, Conn.

MARYLAND—"This letter is the result of talks with several collectors who thought it might be well to report the following to you.

"The limonite is from a hill alongside Rock Creek Park, about one-half mile north of the District of Columbia. I found it where a hill is being graded off for homes. The vein is not too distinct on account of dirt, etc. having been pushed around. It is apparently quite weathered as a lot of the limonite and quartz is well scattered. Most of the xls are growing out from massive limonite. The xls (pseudo after pyrite) show various stages of alteration. Have found less than half-dozen single cubes. There is a good bit of black tourmaline and mica scattered through the quartz.

"So far as I can learn there was no dynamiting here and I can find no evidence of any.

"The material in the vial is sulphur (brown grains) that came out of a cast in the center of a large chunk of quartz.

"I have a few specimens of the limonite and will be glad to trade if anyone is interested."—letter dated June 28, 1956, from Jack N. Barbour, 3608 Webster St., Brentwood, Md.

A 3 x 3 inch iron-stained milky quartz specimen was received. In it are imbedded a number of dark brown cubes of limonite (pseudo pyrite); a large mass of brassy-yellow pyrite is also present in the quartz. It is an attractive specimen.

A pseudo mineral is one that has the crystal form of one mineral but the composition of another.

"Limonite, pseudo pyrite, from a hill

alongside Rock Creek Park, about ½ mile north of District of Columbia in Montgomery County, Maryland." — on label.

MASSACHUSETTS — "I am sending you a piece of rock which I found in a road cut in the town of Shelburne (Franklin Co.), Mass., about a year ago. At the time I thought the mineral might be mica or some other common mineral but the more I thought about it the more I decided to send a piece to you for identification so as to really know what the mineral is. I found only one rock, a little larger than a man's head. This rock was found in the Shelburne road cut at the same location where were found the quite rare calcite xls which were written up in R & M about 2 years ago. (Unusual calcite and pyrite crystals from Shelburne, Mass., by B.M. Shaub and William E. Bernier, Jan-Feb. 1954 R & M, pps. 3-12)."—letter dated June 1, 1956, from Ernest H. Fisk, West Chesterfield, Mass.

You had the specimen correctly identified, Mr. Fisk. It is a mica—a finely ruled black biotite in massive white albite.

MICHIGAN—Very fine specimens of native copper—vein formation, mass of crystals, copper vugs—have been found in the Champion Copper mine at Painesdale, Houghton Co., Mich.

MINNESOTA—Adolph A. Sidla, 201-15th Ave., No., Hopkins, Minn., has sent in an interesting dark gray (almost black) banded chert pebble, 2 x 2 x 2 inches in size.

"I picked this up in the Hopkins area (Hennepin Co.), Minn."—on label.

MISSISSIPPI — The following letter, received a few months ago, comes from M. H. O'Brien, 2927 Vandenberg Rd., Muskegon 36, Mich.

"Here's a little about Mississippi. I spent 8 months there a few years ago and it is a state where a rockhound would go nuts if he didn't have some other interest. The only part of the state containing any rocks bigger than 2 inches in size as far as I could find is in the Central and N.E. corner of the state where a few limestone outcrops are found, also bauxite deposits. The rest of the state seems to contain only pebbles of quartz, and predominately chert, radiolarian chert, jasper, and occasionally a pebble of translucent agate, and some fossils. It is a great state for Indian artifacts which I like to collect almost as well as rocks and searching for them kept me from being too bored with the lack of rocks and minerals."

MISSOURI — Robert Kissick, 7140 Theodore Pla., St. Louis 20, Mo., sent in two interesting specimens which come from the barite mines near Old Mines, Washington Co., Mo. One was a brownish, crested barite mass; the other a drusy milky quartz on a grayish banded agate.

"The drusy quartz is found in the barite mines near the town of Old Mines, Washington County, about 65 miles S.W. of St. Louis. It makes sparkling and showy specimens and is known locally as 'Mineral Blossom'. The banded agate is associated with the drusy quartz and found at the same locality along with the crested barite. These agates often make nice polished pieces and usually come in unusual slabs and forms."—letter dated June 18, 1956, from Mr. Kissick.

MONTANA — Gerald Navratil, 243 Farragut Parkway, Hastings on Hudson, N. Y., sends in the following item:

"About three miles west of the junction of the Seventeen mile—Pipe Creek roads on the right hand side of the road in a bold rock outcrop at a hair-pin turn in the road is an occurrence of iron pyrites in cubes."

The occurrence is in the Libby area of Lincoln County, Montana.

NEBRASKA—John Boellstorff, Johnson (Nemaha Co.), Nebr., sent us a small but nice brown petrified wood pebble which he found on his farm. The specimen should take a good polish.

NEVADA—Robert W. Linley, Jr., 411 Romanock Road, Fairfield, Conn., has sent in a clipping taken from the NEW YORK HERALD TRIBUNE (Aug. 7 ,1956). The

clipping is titled: "Comstock Lode to be reopened" and reads as follows:-

SAN FRANCISCO, Aug. 7 — Mining activities will be resumed on the historic Comstock Lode at Virginia City, (Storey Co.) Nev. Louis H. Seagrave, president of Consolidated Virginia Mining Co., announced today the company will operate its extensive holdings on the lode which have produced gold and silver valued at more than $220,000,000.

"Large values in gold and silver still exist on Consolidated Virginia's properties," Mr. Seagrave said. "Earlier operators concentrated solely on high values and ignored ore of lower values which are of commercial grade today. There also is reason to believe that valuable ore exists in a virgin area near the surface."

NEW HAMPSHIRE — Honey-yellow rhombohedral xls of ankerite occur in cavities of auriferous quartz veins at the old gold mine at Littleton, Grafton Co., N. H.

NEW JERSEY—"Thumbing through an old field book recently, I noted that the author recommended the old Schuyler copper mine at North Arlington (Bergen Co.), New Jersey, as a possible source of copper minerals.

"As a recent convert with but one piece of poor quality chrysocolla in my possession, I was all for a field trip to the old mine.

"I broached the subject at a meeting of the Queens Mineral Society and luckily, Ted and Clara Fredericks of Springfield Gardens, Long Island, were willing to accompany me to the mine.

"This mine has a very interesting history. First discovered in 1712, it was operating three years later. It is reputed to have been the first copper mine operated in United States antedating the old Griggstown copper mine by almost 40 years. In pre-revolutionary days, the ore extracted from this mine was shipped directly to England and was used as a source of copper in the coining of the English farthings. It was a most profitable source of income to the Schuyler Family, hence its name. At one time in its operations, it employed almost 200 men and it is said that it had 42 shafts. Even as late as 1900, a group of men spent a small fortune modernizing it but it closed down soon thereafter, never to reopen again. At the present time, the only remaining vestiges of this famous mine are two ruined brick chimneys and badly eroded red shale with but little vegetation on the slopes.

"Ted, Clara and I spent about 3 hours giving the place a good going over one fine Wednesday afternoon. We picked up some real nice specimens of chalcocite, azurite, malachite and chrysocolla. Several of the chalcocite pieces showed cuprite and native copper. Ted found a chunk of native copper.

"I picked up a piece of coal. Ted claimed it was not native. The late James G. Manchester in "Minerals of New York City and Its Environs" claimed that coal was found at the mine. So the coal stays with me as a specimen!

"Clara did her share of collecting specimens but being an ardent gardener, dug up some nice varieties of iris and violet for transplanting. The plants are doing nicely in the Fredericks flower bed!

"Among the minerals that have been found at this famous mine were calcite, conichalcite, covellite, epidote, brown ochre, gold (in copper), rutile, silver (in copper) and wad."... letter dated May 20, 1956, from Louis H. Roth, 114-67 223rd Street, Cambria Heights, 11, N. Y.

NEW MEXICO—Beautiful masses of altaite, tin-white to yellowish, tarnishing to a bronze-yellow, have been found at the Hilltop mine, Organ District, Dona Ana Co., N. Mex.

NEW YORK—"You probably know that the Gem and Lapidary Society makes its headquarters at the Hotel Paris. Usually our trips to find cutting material take us far afield.

"Imagine, therefore, my surprise when last week I found a nice piece of brown jasper in the dirt of a small excavation (21 x 21 feet) on 96th Street and Broad-

way (in New York City). I have since looked the place over everytime I pass and come up with jasper, chalcedony, and agate in a number of pieces. None is really good gem material, but there is so much material in so small space that probably some really good stuff is under the sidewalk or the road-bed. The jasper is yellowish to brownish in some cases apparently covering chalcedony. The chalcedony is whitish to nearly like carnelian in color. I am sending you samples.

"I cut a couple of cabochons. The material is not too tough, but takes a nice polish."—letter dated July 27, 1956, from Martin Walter, Mgr. Hotel Paris, West End Ave. & 97th St., New York 27, N.Y.

A number of specimens were received—they were all pebbles. One was a pale brownish chalcedony, another a dark gray chalcedony with a yellow-brown jasper crust. Still others were sawed pebbles of yellow-brown jasper which had a dark gray chalcedony interior. Coming from New York City they were really interesting and nice.

NORTH CAROLINA — "Please find under separate cover one of the groups of samarskite crystals about which we recently wrote you. The crystals came from a small operation in the Green Mountain Area of Yancey County, N.C. The mine itself produced for only a short while, and was such a temporary thing that it had no name. Probably the most interesting feature of the occurrence was the description of the "narrow vein of material" as given by the miners. Samarskite, as you know, is a pegmatite mineral and we were not aware, in any case, that it might occur in such a small vein, probably a small dike. The surrounding feldspar contains a great deal of fine crystalline autunite also. The specimen sent you had been carefully cleaned to show the crystal structure. Dental picks come in very handy indeed! Incidentally, the mine was producing feldspar but graded into an undesirable variety.

"We have a supply of these fine samarskite crystals and would be glad to work out some kind of a swap with other collectors. We need a number of large display specimens for our museum."—letter dated June 26, 1956, from the Geology Department, Belmont Abbey College, Belmont, N. C.

A group of small, black samarskite xls was received—very nice!

NORTH DAKOTA—Mrs. Ed. P. Olson, Box 425, Beresford, S.D., sent in a mottled reddish-brown chalcedony pebble which she collected at Dickinson, Stark Co., N. D.

OHIO—"Here are two items for "World News on Mineral Occurrences'. One item is that a mineral new to this locality, lepidocrocite (an iron oxide) has positively been identified by Dr. Clark of the Cleveland Museum of Natural History. Since I work at this Museum I received word of this mineral occurring here. Its locality is 1 mile south of Little Cedar Point, Rocky River Reservation, Cuyahoga Co., Ohio.

"The other item is that small whitish xls of selenite were found by myself also at the Rocky River Reservation but at a different spot."—letter dated June 11, 1956, from Miss Eileen Philpott, 2200 Wascana Ave., Lakewood 7, Ohio.

OKLAHOMA—"Ants are industrious little insects. They sink their shafts and dig their tunnels, and when a pebble impedes progress—they roll or carry it to the surface and make a mound around their mine. I've watched them work, and envied their ability to carry a rock twice their weight. My how I wish I could do that!

"Knowing that garnets are found on ant hills in Arizona, I never fail to search a hill when looking for rocks. I was collecting miniature barite roses at a locality in Logan County, northwest of Guthrie, Okla., when I noticed a large ant hill. Sure enough, the ants had found some tiny roses no bigger than a match head and perfectly formed. I picked up enough to fill a small bottle.

"Oklahoma has all sizes of barite roses from a cabbage head on down. The largest in this particular locality are about the size of marbles."—letter dated Feb.

25, 1956, from Marie Kennedy, 737 W. Kansas, Blackwell, Okla.

A number of barite roses from the above locality were sent in by Mrs. Kennedy. The roses varied in size from tiny "ant hill roses" up to ¾ x ¾ inch. They were all reddish-brown in color, of good quality—and very, very interesting. We wonder if collectors ever found any other minerals on an ant hill beside barite, garnet and quartz. If you have, send us a note about them.

OREGON—John S. Albanese, P.O. Box 221, Union, N. J., sent in an interesting specimen—a loose, 1 inch epidote crystal. The crystal is bi-colored—dark green (almost black) on outside; light green inside. The crystal is a broken one however but due to this defect its interior is revealed and thus easily seen that it is bi-colored—the first bi-colored epidote ever brought to our attention. "Near Cornucopia (Baker Co.), Oregon. Southern part of Wallowa Mts."—reads the label.

PENNSYLVANIA — "I've been intending to send you some specimens that I collected last year while I was still in college in Pennsylvania, but I never got around to it until now. The specimens I'm sending you are *not* common minerals and I doubt whether you and even most of your subscribers have even seen these minerals before. It is also quite possible that you all never heard of them!

"Both specimens were collected by myself at an old iron ore diggings in the "wilds of central Pennsylvania." The locality is about 3 miles from Warriors Mark, Huntingdon Co., Penn. The identification is accurate since I obtained x-ray powder patterns for them as a final verification step. They are: (1) cryptomelane—a K-bearing manganese oxide resembling psilomelane, and (2) lepidocrocite—an iron oxide (hydrated) identical with goethite in chemical composition and crystal system, but having a reddish color and different optical properties.

"If collectors are interested in these minerals, I might be persuaded to part with some that I still have left via the trade route."—letter dated June 28, 1956, from Robert E. Snow, 1137 Marjorie St., Lakeland, Fla.

The cryptomelane received is a dull black botryoidal mass. The lepidocrocite is a scaly-fibrous mass of a reddish color (a maganiferous goethite) on a dark brown limonite.

RHODE ISLAND—Klaus H. Albrecht, Forge Road, Westport, Mass., reports finding rock crystals all around Portsmouth, Newport Co., R. I.

SOUTH CAROLINA—"The attached clipping is from the Louisville, Ky. COURIER-JOURNAL of July 15, and is different from previous clippings sent in that it is not secretive. Seems like here in Kentucky when a search starts for minerals the devil and all his imps couldn't find out what's going on."—letter dated July 15, 1956, from Charles Johnson, 307 W. 4th St., Frankfort, Ky.

The clipping is titled "Gold dredge digs up titanium now" and the item was written by Alderman Duncan, associated press writer. Part of the clipping reads as follows:

"Clearwater, S. C., July 14th — with transplanted Montana gold-mining equipment, a unique titanium-mining operation has been operating successfully here for a year.

"Owen H. Perry, vice-president and general manager of Marina Minerals, Inc., says 'we are the first ones to attempt mining the way we are doing.'

"The operation is producing these four different minerals: ilmenite, rutile, zircon, monazite.

"Ilmenite and rutile are the common sources of titanium, a hard but light metal in great demand by the aircraft industry. Zircon is the ore of zirconium. Monazite is known as one of the rare-earth minerals.

"There's enough of the four minerals in Aiken County's Horse Creek Valley (site of Clearwater) to keep the operation going, Perry estimates, for longer than anyone now connected with it will be living.

About 8,000 tons of earth are mined every 24 hours by a huge dredge formerly used in the Montana gold fields—about 1 per cent of this is usable. The area now being mined is about 4½ miles long and half a mile wide in some places. The dredge, which measures more than 200 feet over-all is similar, Perry says, to a type used to mine tin in Malaya. It was brought in pieces from Montana and reassembled here. The four minerals, which sink to the bottom of a container while the lighter substances wash away, are separated from the sand and earth inside the dredge. After going through a vast system of sieves and shaker beds, they are pumped or hauled to the dryer house."

SOUTH DAKOTA—John S. Albanese, P.O. Box 221, Union, N. J., sent in recently 2 interesting specimens—analcite and a marcasite.

The analcite consists of tiny, brownish, gemmy xls on dark brown cellular limonite. Some xls are coated by limonite —a few so heavily coated that they appear as little brown globules on the limonite which is a broken geode.

"Analcite micro xls. from uranium bearing lignite beds, North Cave Hills, Harding County, South Dakota. Unusual for analcite in sedimentary rock."—on label.

The marcasite is a dark gray concretion with tiny brassy-yellow marcasite xls scattered all over the surface.

"Marcasite concretion. In part pyrite. From uranium bearing mudstone which is in part ore grade. South Cave Hills, Harding County, South Dakota."—on label.

No radioactivity noted in the specimens.

TENNESSEE—Purple to white fluorite xls occur at the Boatman fluorspar mine located outside of Rome, Smith Co., Tenn., so we are informed by Carl Seyfert, Jr., Box 1803, Vanderbilt Univ., Nashville, Tenn.

TEXAS—From Eagle Ford, Dallas Co., Texas, we have four specimens of alunite collected for us by Mrs. Ruby Renfro, 2901 Bomar Ave., Forth Worth 3, Texas.

Alunite is a hydrous sulphate of aluminum and potassium, white to gray in color, and the specimens are typical of those described in her article which appears in this issue—"New Occurrence of Alunite." Look it up!

UTAH—Mrs. Pete Mohlsick, 2830 Darwin St., Apt. 6, Sacramento 21, Calif., sends in an item about a new uranium strike by the Pilling Brothers of Price, Utah. This strike was found in the Sinbad area (San Raphael Swell), about 8 miles north of the well known uranium finds of Temple Mountain, in Emery County, Utah. By geiger counter the ore averages from .10 to 14%. They have driven a 100 foot tunnel at last reports. Clarence P Pilling, Rt. 1, Price, Utah, is in charge of operation.

Mr. Pilling's son, Leon and his wife, Sue, have one of the claims in this group. We wish the young couple, and the Pilling Brothers, great success in their mining venture. Sue is a cousin of the Editor of R & M.

Incidently Mr. Clarence P. Pilling has in his collection eleven priceless figurines which he had found in a cave near Price, Utah. These figurines are of excellent quality and were made by the Moki Indians at least 1,350 years ago.

VERMONT—Handsome green talc specimens have been found in Bridgewater, Windsor Co., Vt.

VIRGINIA—"I am sending you a piece of rock filled with some kind of metal. Could you tell me what it is? There seems to be a lot of it here on my farm.

"Do you ever get down this way? If so I would be glad to have you stop and see us—about 100 miles southwest of Washington, D.C."—letter dated June 11 1956, from Arthur V. Wait, Criglersville, Madison Co., Va.

Yes, Arthur, we can identify your specimen. It consists of lustrous, brassy—yellow striated cubes of pyrite in massive smoky quartz. Pyrite is commonly known as fool's gold but some pyrite does carry

gold and can be mined as a gold ore—we doubt, however if your specimen is gold bearing. Juding from the small specimen sent us, your pyrite should make handsome specimens suitable for a collector's cabinet.

Write again when you have another specimen to identify as it will be a pleasure to hear from you, Arthur.

Arthur used to live in Peekskill, years ago, in fact he and the Editor were teammates on the high school basketball team. What a pleasant surprise to hear from him after all these years!

WASHINGTON—"I am sending you 2 specimens found near here in Puyallup, Pierce Co., Wash. I feel quite sure that the xls are either calcite or quartz but would like to know definitely which one. Will you tell me, please?"—letter dated Aug. 1, 1956, from Robert J. Smith, Rt. 2, Box 190, Puyallup, Wash.

The crystals are quartz (rock crystals) on massive milky quartz. Some altered mineral (altering to brown limonite) also present.

WEST VIRGINIA—Hematite (red iron ore) has been mined near Wardensville, Hardy Co., W. Va.

WISCONSIN—"I haven't noticed any articles from Wisconsin in your column so as a novice I shall try to describe some areas here that may be interesting.

"The area in southwestern Wisconsin comprising of Grant, Vernon, La Crosse, Dodge, Juneau, Counties is the lead and zinc mining area. There are many abandoned mines here where one can find good specimens of galena, sphalerite, marcasite, hematite, limonite. Some of the mines are Eberley, Yellow Jacket, Beetown and Black Jack—these are zinc mines located near Beetown, Grant Co., Wisc.

"Galena was mined in the following: Black Bill, Spring Level, Graham Stout and Merric, Atkinson mines northwest of Beetown in what was called the Mussalunge Diggings.

"There are many mines still in operation south of this area—Cuba City, Cassville, Mineral Point, Dodgeville, etc.

"In the area west of here quite often nice Lake Superior agates are found. This agate-bearing area extends into Minnesota and north into Canada.

"In the area northeast of here comprising Douglas, Bayfield, Iron, Vilas Counties, one can find good specimens of hematite, native copper, laconite, chrysocolla, agate, carnelian, thomsonite, bertrandite, etc.

"As the upper half of Wisconsin is glaciated there are many gravel pits where one can find a multitude of specimens.

"I would gladly answer inquiries about these areas because I have visited them many times. I would also like to exchange specimens from here for those of other areas."—letter dated May 2, 1956 from Lyle D. Rusha, RR 4, Chippewa Falls, Wisc.

WYOMING—The following letter, dated April 25, 1956, comes from Frank Matan, 4217 Rhode Island St., Gary 11, Indiana.

"Last summer while on vacation in Wyoming, I was in the Big Horn Mts. and stumbled upon a rock that came out of a hill in a vein. The strange part about it was there were no other rocks visible as far as the eye could see.

"I don't know what it is called, but I have been able to make some nice cabs out of it. It takes a very nice polish, in fact it is equal, if not better, to the Montana agate as far as working with it is concerned.

"The rock comes from Big Horn County, between Tensleep and Hyattville. Someone else has been picking it up also, as I have seen it for sale at quite a few rock shops in Wyoming and Montana as tumbled material."

Two samples were received from Mr. Matan. One is a large brownish chalcedony; the other a small bluish-gray chalcedony—both have areas of black moss agate. They are both very nice specimens.

ALASKA—From Nelson Island, Alaska, we have a specimen of petrifiied wood —a dark gray (almost black) pebble which contains thin whitish bands. It was

sent us by John S. Albanese, P.O. Box 221, Union, N.J.

Nelson Island is a large island off the S.W. coast of Alaska.

ANDORRA—From Andorra, one of the world's smallest countries, lying between France and Spain, we have two rock samples that were sent us by Juan Montal, Plaza Sgdo. Corazon No. 1, Villafranca del Panades, Spain. Mr. Montal collected the samples near the city of Andorra, the capital and largest city located in S.W. Andorra.

The samples are:

Basalt. Dark gray fine grained rock. Found 1/2 kilometer (1600 feet) southwest of the city.

Mica schist. Dark gray mass. Found 1 kilometer (3200 feet) west of the city.

AUSTRALIA — a green botryoidal mass of malachite associated with greenish xls of atacamite, deep blue xls of azurite, copper-red xled native copper, and dark red (almost black) mass of cuprite, was sent us by Roger C.H. Doo, 74 Day St., Drummoyne, Sydney, Australia.

The locality for this fine specimen is Hatches' Creek, N.T., Australia.

AUSTRIA — At Hochnarr, Salzburg, Austria, black xls (sometimes bluish-black) of anatase are found associated with albite and titanite on gneiss. The anatase look like elongated magnetite xls with a high luster. This item given us by Klaus H. Albrecht, Forge Road, Westport, Mass., who personally collected specimens at the locality.

CANADA—Minerals and Gems, P.O. Box 8072, Albany, N.Y., donated the following specimen that consists of tiny bright yellow masses of native gold with fibrous, lead-gray cosalite in milky quartz.

"Native gold in quartz. Cariboo District, B.C., Canada."—on label.

COLOMBIA—"Recently I went with some other geologists to a quartz xl and siderite locality at Pacho, Colombia. which is 70 kilometers N.W. of Bogota and on the same trend as the emerald mines at Muzo, Colombia. We got some very nice singles and groups of quartz xls with siderite xls attached (no emeralds) all covered with a coating of limonite. When cleaned they are very nice specimens. They are somewhat hard to get because they are in a vertical vein of what appears to

City of Andorra, Capital of Andorra

be soft muddy limonite and you can't see what you are getting until you take the stuff home and wash it. There is also talc (pyrophyllite) and some of the xls are intergrown into it. Not spectacular but interesting specimens.

"Bought a nice small emerald matrix xl from the Muzo mine recently—not of gem quality but a nice emerald-green and well preserved. It's not easy to get them, but at times they turn up."—letter dated June 7, 1956, from W.T. O'Gara, Dept. Exploration, International Pet. Co., Ltd., Edificio Colombiana De Sequros, Bogota, Colombia.

ENGLAND—Sky blue botryoidal aggregate and spheres, 1-1½ mm. in diameter, occurring on liroconite and associated with clinoclase and olivenite or chrysocolla are shown to be ceruleite. Found at Wheel Gorland, Gwennap, Cornwall, England—the second known occurrence of the mineral.—Notice No. 90, Mineralogical Society, British Museum of Natural History, Cromwell Road, London SW 7, England.

GERMANY—John S. Albanese, P.O. Box 221, Union, N. J., donated this interesting mineral—a parallel group of brownish epidote xls with massive red almandite (garnet).

"From Grube Bergfreiheit, Schmideberg, Silesia, Germany."—on label.

HAWAII—"I am sending you a small specimen-lot of faujasite under separate cover. I collected this material while stationed for a short time in Hawaii on my way back from overseas during World War II. The faujasite occurred as a cementing material of a part of a small cinder cone which was being removed as easily crushable road surfacing material The faujasite—unrecognized in the field—was quite localized, only being apparent within a few feet, horizontally, and surrounding a sort of pipe-like structure which had a nearly vertical trend, upward through the cinder cone. It may well have been the case that other interesting minerals could have been found there too—had I been there earlier when the cone and pipe were first excavated. In some of the specimens are small cream-colored crystals of what is believed to be laumontite, but whole crystals of this mineral are few and far between in the material I have. The faujasite was nearly two years in being identified after I had returned home. Your friend, and mine, Gunnar Bjareby, was instrumental in its first identification, working with a mineralogist at Boston College. Since that time its identification has been further supported by several others in the micromount field although its crystal form is rather difficult to determine because of twinning and intergrowth."—letter, dated June 2, 1956 from John O. Griesbach, 3957 Wendy Court, Wheaton, Silver Spring, Md.

A number of these tiny colorless xls embedded in grayish lapilli, were received (packed in a little vial) and though minute they are intensely interesting.

"Faujasite, micro-crystals, twins and druse on lapilli, Kalepa Ridge, near Hanamaulu, Kauai Island, Hawaii.

Collected April 1944, by John O. Griesbach."—on label.

IRELAND—Raymond Conover, Stone Ridge, N.Y., sent in a clipping from the May 20, 1956, issue of the NEW YORK TIMES relative to the opening up of some old Irish copper mines that were abandoned over 100 years ago. One copper mine is at Avoca, in County Wicklow, 40 miles south of Dublin. Another is at Bearhaven, a town on Ireland's bleak and rocky southwest coast in County Cork. Still another is at Beauparc in County Meath, about 30 miles north of Dublin. A lead - zinc mine at Castleblayney in County Monaghan, about 60 miles north of Dublin, is also being reopened.

ITALY—About 105 miles south of Sicily (Italy's largest island), is the tiny island of Linosa, only about 2 miles across in either direction. It has no harbor capable of sheltering anything but small boats, and its normal population of

about 500 is mostly engaged in raising cattle.

Linosa is entirely volcanic, its highest point (Mte. Rosso) is 610 ft. above sea level. It has landing places on the south and west.

On the volcano of Mte. Rosso are found loose colorless glassy masses of carnegieite—3 of which, each with a brownish pitted surface—were sent us by Minerals and Gems, P.O. Box 8072, Albany, N.Y.

Carnegieite was first found here and was named in honor of Andrew Carnegie, American philanthropist.

NORWAY—Minerals and Gems, P.O. Box 8072, Albany, N.Y., sent in a nice black mass of radioactive Allanite (orthite)

"Froland, near Arendal, Norway."—on label.

SCOTLAND—"Picked up a beautiful piece of natrolite at Boylestone quarry (Barrhead, Renfrewshire, Scotland), the finest by far that I have ever seen from that locality, and I am presenting it to the Royal Scottish Museum. It is 3 x 6 inches in size and has two big brushes of clear needles (of natrolite) with several small brushes, but is very fragile. Still no prehnite at the quarry but lots of small pieces of analcite with tiny native copper xls.

"Robert Webster came north to take the Edinburgh and Glasgow exams for the Gemmological Association and he and Mrs. Webster stayed with us. We had one good trip through the Clyde Valley finishing up with a search of the dumps at Leadhills (lead mines) Lanarkshire, Scotland, but only rather poor specimens of calcite, quartz, galena, bornite, chalcopyrite, and sphalerite were found. We would have been better off going on to neighboring Wanlockhead where the dumps yield much better specimens."—letter dated June 6, 1956, from Sandy Ramsay, 1015 Aikenhead Road, Kings Park, Glasgow S4, Scotland.

SPAIN—A brownish—earthy mass of bismutite in white coarse xline calcite—a little pale brownish scheelite which fl. bluish, also present—was sent us by Juan Montal, Plaza Sagrado Corazon 1, Villafranca Del Panades, Spain.

"From Estopona, Malaga Province, Spain."—on label.

UGANDA——From Ankole, Uganda, we have a flesh colored mass of microcline sent in by John S. Albanese, P.O. Box 221, Union, N. J.

"From near Kabusonyi Gambolola, Ankole, Uganda, Africa."—on label.

VENEZUELA—From a subscriber in Venezuela (who does not want his name mentioned) comes this item:

"Across the Caroni River from Puerto Ordoz and south about 50-75 km. is El Pao the center of the gold mining area (although rich gold placer are found all over southern Venezuela). Nice specimens of gold-rich quartz are desk paperweights around here."

WALES—The following item, dated July 16, 1956, was sent in by Mrs. Robert R. Barker, 2 Parr Road, Diss, Norfolk, England.

"We used up most of our leave-time last year so that we'll have to be content with short trips around Eastern England this summer, which is just as well since there is a lot to see locally. For instance, this spring I discovered there is quite an assortment of fossils in the local sand and gravel pit right here in Diss!

"We did manage to take a three day trip to North Wales while my folks (Mr. & Mrs. Berry of E. Lynn, Mass.) were here, driving them through the heart of Snowdonia.

"For your World Occurrences: There is a lead mine being worked now in Llanrwst near Gwydin Castle (close to the little tourist town of Bettws-y-Coed in Denbighshire, North Wales) called the Parc Lead Mine. A friend of ours, a former slate quarryman, is working there and he sent us a specimen of hydrozincite that fluoresces characteristically, and some very interesting calcite crystals—flat rhom-

bohedrons with triad markings of pyrite or marcasite. They make most interesting and attractive specimens.

"Lead mining in Llanrwst must be a very old industry indeed because Arthur Aiken mentions the mines in his "Journal of a tour through north Wales, 1797."

"We came to a pretty extensive dip between the mountains, full of mines—the surrounding rocks are slate, bituminous shale, and calcareous spar, the product galena and calamine (smithsonite?) mixed however with iron ochre and pyrites, and a small quantity of chalcopyrite; the different minerals are so blended that in the same specimen, and by no means a large one, were found iron pyrite, ochre, chalcopyrite, galena, calamine, quartz, calcite, bituminous shale, and trap."

To Our Customers and Friends

After Sept. 1, we will be at our new home, 1216 E. McClellan, Phoenix, Ariz.

We have sold "Poverty Gulch, Arizona—Population 2" lock, stock and barrel. The new owners who will take over are Jim and Christine Zito of Geneva, Ohio, who are two very nice people and I am sure you will enjoy meeting them when they take over.

Poverty Gulch, if you have never been here, is across the road from Camelback Inn and in the center of activity in the winter, there being 25 more resorts in the area. I am sure the Zito's will do well here.

Fern and I have been working with "Earth Science" for 20 years. Before the war we operated under the name of the Copper State Gem Co. and when we started in again after the war was over we adopted the name of Matt's Rock Shop. We are the first dealers in Arizona, and one of the first dealers in the Southwest. There is a certain amount of regret in stepping out of the game, but both of us are of retirement age, and now we can do a lot of things that we would never get done if we remained in business.

I am leaving two items that are getting very scarce on the dealers shelves, and they are the rare leads from Mammoth, and cuprite and crystallized native copper from Ray, Arizona. You would do well to see the Zito's about these two items, if you are interested in something good.

We will be glad to see any of our old friends and customers at our new address.

Ed and Fern Matteson

R & M Will Continue To Arrive!

Editor R & M:

Enclosing $3.00 for my delayed renewal. This was a complete oversight. As long as I remain on this planet, ROCKS AND MINERALS, I hope, will continue to arrive at 215 Seltsam Rd., Bridgeport, Conn.

George H. Porter
215 Seltsam Rd.
Bridgeport, Conn.

Aug. 21, 1956

INFORMATION WANTED BY READERS

Los Angeles County Collectors:

I am in the process of preparing a paper on the minerals and their occurrence in Los Angeles County, Calif. I would appreciate detailed information on the location of all collecting areas. However, please do not send anything on Tick Canyon or Pacoima Canyon unless you have something not listed in Minerals of California. Thank you.

W. Edwin Sharp
1244 Stanley Ave.
Glendale 6, Calif.

Aug. 31, 1956

Montville, N. J. Serpentine

"I would like to ask a question? Where in Montville, N. J., can serpentine be found? I bought a nice specimen at Walker's Minerals in New York City and while there a discussion arose between a number of collectors present as to whether the mineral comes from Montville, N. J., or from Montvale, N. J. I have been to Montville but could find no trace of serpentine. I have heard that many collectors have likewise visited Montville with no success.

H. J. Harbers
181 Richmond St.
Brooklyn 8, N. Y.

Aug. 17, 1956

Ans.—In Sept. 1945, R&M, p. 423, appears this item:

The most noted precious serpentine locality in New Jersey is near Montville in the northeastern part of Morris County. Here a beautiful deep green and oil-yellow, often translucent, serpentine occurs in an old abandoned limestone quarry located on the eastern slope of Turkey Hill, about 2 miles north of Montville R.R. station. The locality is said to be so hard to find that collectors are avoiding it.

Montville, a small village of about 2,000, is in the northern part of the State.

THE SAND COLLECTOR

CONDUCTED BY PETER ZODAC
PEEKSKILL, N. Y.

Quartz Sand from Cove, Ark.

This sample was sent in by Mrs. Ruby Renfro, 2901 Bomar Ave., Fort Worth 3, Texas. It is a medium grained red sand consisting of quartz (smoky, also colorless—some of the colorless are small rock xls) and red clay. It is the red clay that gives the sand its red color.

"Quartz sand, five miles south of Cove (Polk Co.), Ark. Highway 71."—on label.

River Sand from Yuba River, Calif.

Where Calif. Route 49 crosses the Middle Fork of Yuba River in Sierra County, Calif., we have a sand sample from the river that was collected for us by Peter Mohlsick, 2830 Darwin St., Sacramento 21, Calif. The sample is a dark gray, coarse sand. It consists chiefly of mica schist (dark gray, gray, and light gray), with minor amounts of quartz (smoky, brownish), black magnetite, gray phyllite, slate (red, black), and a few grains of green gemmy olivine.

Ilmenite Sand from Red Rocks Park, Colo.

Henry Aarnes, 4543 Milwaukee St., Denver 16, Colo., collected this sand for us. It is a medium grained, reddish sand consisting of reddish quartz, reddish feldspar, black lustrous ilmenite, a very small amount of black magnetite, and a tiny amount of silvery muscovite.

"Sand is from a road near the Red Rocks Park (Jefferson Co., Colo.) some 18-20 miles west of Denver. It is only a dirt road and the sand was washed along the wheel tracks."—letter dated July 18, 1956, from Mr. Aarnes.

Lake Sand From Candlewood Lake, Conn.

This is a medium grained, dark gray sand. It consists of quartz (smoky, colorless), flesh-colored feldspar, silvery muscovite, pinkish garnet, black tourmaline, and black magnetite.

Collected by H. J. Lienemann, Box 42, Gouverneur, N. Y.

Beach Sand from Daytona Beach, Fla.

From famous Daytona Beach in Volusia Co., Fla., we have a 5½ lb. sand sample that was collected for us by Eddie and Margie Bourne, 1107 Cortland St., Peekskill, N. Y. The sample is a fine grained, gray sand consisting almost entirely of colorless quartz (some brown, broken sea shells also present).

Garnet Sand from Byron, Maine

From Maine's famous gold locality, Swift River at Byron, Oxford Co., we have a sand sample that was collected for us by Mrs. Ruth Wentworth, 135 Maine Ave., Portland, Maine.

The sample is a coarse grained, dark reddish sand. It consists chiefly of pinkish garnets (some showing xl faces) with colorless to smoky quartz, black biotite, black magnetite, pale silvery muscovite, black staurolite, and gray mica schist.

Quartz Sand from Pittsfield, Mass.

An anonymous collector sent in this sample which is a fine grained, dark gray sand consisting chiefly of quartz (white and colorless) with black biotite brownish feldspar, white muscovite, and greenish-blue beryl.

"Sample comes from a sandbank in the south end of Pittsfield (Berkshire Co.), Mass., just off Route 20 by N.Y.-N.H.&H.R.R."—on label.

Beach Sand from Fort Wilkins, Mich.

Harry A. Laurent, P.O. Box 345, Nashville, Mich., sent in this sample which is a fine grained, brownish sand. It is almost all quartz (colorless, smoky, brownish) with a tiny amount of black magnetite.

"Sand from shore at Fort Wilkins on Lake Superior, Keweenaw Co., Mich."—on label.

Two Sands from Red Wing, Minn.

Harry Aarnes, 4543 Milwaukee St., Denver 16, Colo., sent in two sands which he had collected at Red Wing, Goodhue Co., Minn.

"These sands are from a sand pit dug into a hillside aways up from the base of the hill.

"The strata they composed was, as near as I can recall, about 5 feet thick. In one part of the strata the sand was white, while perhaps about 50 feet to one side it was black.

"How come the sand was both black and white in this same layer within such a small distance? The sand is coated with some kind of a black substance which can be rubbed off on the fingers. Higher up in the same hill, perhaps 50 feet or more, was another layer of white sand of the same kind but of a purer white.

"Very hilly around Red Wing. An interesting country."—letter dated July 18,1956, from Mr. Aarnes.

The first sample is a fine grained, gray sand. It is all colorless quartz.

The second sample is a black, medium grained sand. It consists of nicely rounded quartz grains (colorless or smoky) that are coated by deep black limonite; when crushed, the black coating (or crust) shows the characteristic brown color of limonite. Part of the black coating is due to manganese (wad) which is a soft earthy mineral and it is this wad which coats the fingers.

Why one section of the sand deposit is black while the rest is white may be explained thusly: water carrying iron and manganese in solution may have penetrated this section only and deposited its iron and manganese around the quartz grains.

Red Sand from Grenada, Miss.

Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4, Scotland, obtains interesting sand samples from so many localities throughout the world that at times this feat is truly amazing. We know he gets these sands because—he sends them to us. Imagine our surprise one day to obtain from him four sand samples from our own State of Mississippi! Why it's like carrying coals to Newcastle!

One of these sand samples comes from Grenada, Grenada Co., Miss. It is a fine grained red sand—all red quartz. The label with it reads:

Locality: Road cut 2 miles west of Grenada, on State Hi-way 8.

Type: Red, occurs 6 feet below cementation of very poor grade of hematite.

Date collected: Feb. 14, 1953.

Quartz Sand from Palermo, N. J.

"I am sending you a sample of Jersey sand I got in Palermo (Cape May Co.), near Ocean City, N. J., and right along side of the State Parkway."—writes John V. Pontier, Sr., 411-9th St., Ocean City, N. J.

The sample is a coarse grained, gray sand. It consists entirely of quartz (colorless to smoky, some white).

Olivine Sand from Las Cruces, N. Mex.

An anonymous reader sent in the following sample which is a dark gray, coarse sand consisting of dark gray pitted basalt and green glassy olivine. A tiny amount of dull black magnetite also present.

"I am sending you some volcanic (basalt) sand from west of Las Cruces, Dona Ana Co., N. Mex."—on label.

Lake Sand from Lake Lauderdale, N. Y.

Lake Lauderdale is a small body of water in Washington County, New York. About 300 feet of its northwestern tip parallels the east side of New York Hiway 22 (25 ft. from the hiwy). On July 17, of this year, the conductor of this department obtained a asmple of sand from the lake at a spot about 150 ft. from its north end and along the hiway; there was no beach here and so the sand

had to be scooped up from the bottom of the lake. The sample when dried turned out to be a dark gray, medium grained sand consisting chiefly of slate (gray, some reddish) with some gray sandstone and smoky quartz plus a very little black biotite and a tiny amount of black magnetite.

River Sand from Webster, N. C.

Shortly before his death, some few months ago, Col. Orville M. Hewitt of Asheville, N. C., sent us an interesting sand which is herewith described. The sand is dark brown and coarse grained consisting chiefly of quartz (smoky, colorless, brownish) and garnet (pink to dark pink) with minor amounts of white feldspar, silvery muscovite and black magnetite.

"Tuckasegee River sand: from Tuckasegee River about 1½ miles above Webster (Jackson Co.), N. C. Collected and donated by J. H. Gillis, Sylva, N. C." —on label.

Cave Sand from Breckers Cave, N. Y.

Lawrence Chapman, 41 Church St., Franklin, N. J., donated this sample which comes from Breckers Cave at Schoharie, Schoharie Co., N. Y. This sample is a coarse grained, dark brown sand consisting chiefly of limestone (black, gray, dark gray) with smaller amounts of quartz (colorless, smoky and gray chalcedony) and a much smaller amount of magnetite (most of it is lustrous black but some is oxidized to reddish-brown limonite).

"From back of cave where stream flows out from an inaccessible passage and disappears."—on label.

Magnetite Sand from near Harrison, Ohio

This is a fine grained black sand consisting chiefly of black lustrous magnetite with some pinkish garnet, dark bronzy pyrite, smoky quartz and green epidote. Donated by Clyde C. Campbell, 706 Harrison Ave., Harrison, Ohio.

"Sand from Johnson's Fork Creek, near Harrison (Hamilton Co.), Ohio." —on label.

Quartz Sand from Antlers, Okla.

Glen E. Kiser, Douglass, Kans., sent in these two brightly colored sands. One is orange sand and fine grained consisting entirely of orange colored quartz.

"From Hwy 3—3 miles S.E. of Antlers (Pushmataha Co.), Okla."—on label.

The other is a fine grained, red sand consisting entirely of bright red quartz.

"From Hwy 3—2 miles west of Antlers, Okla."—on label.

Volcanic Sand from Portland, Ore.

"Here are a couple of sand samples that might be of interest to you that I got while in Portland last week. While I lived there for 28 years I didn't think anything particular about this old volcano in the park. It is interesting for the sand at least.

"So here are the two colors that predominate."—letter dated July 8, 1956, from Chas. R. Lamb, Long Beach, Wash.

The first sample is a black, medium grained sand consisting chiefly of black, pitted lava with a small amount of black magnetite.

The second sample is reddish-brown, medium grained sand consisting chiefly of reddish-brown lava with a small amount of blackish magnetite that has altered into reddish-brown limonite.

"Both sands from old volcano crater at Mt. Tabor, Mt. Tabor Park, in Portland (Multnomah Co.), Ore."—on label.

Garnet Sand from Matunuck Beach, R. I.

Matunuck, in southern Rhode Island, is on the Atlantic Ocean. From a beach in Matunuck we have a sand sample that is dark red and medium grained. The sand consists chiefly of pink to red garnet with smaller amounts of green epidote, black lustrous magnetite and quartz (colorless, smoky, brownish). The sand was sent in by a collector (name not known) and its label reads:

"From Deep Hole Beach, Matunuck, Washington Co., R. I."

Limestone Sand from Brandt, S. D.

"By parcel post today I am sending you a sample of coarse sand from a well in Brandt, (Deuel Co.), S. D., at a depth of 68 feet of which the last

2 feet penetrated the sand strata. A copious flow of water was realized therefrom."—letter dated July 3, 1956, from Alfred Peterson, Box 73, Brandt, S. D.

The sample is a coarse grained, brownish sand consisting chiefly of brownish limestone, with a small amount of smoky quartz, and a tiny amount of black magnetite.

River Sands from Denison, Texas

"Am sending you 3 Red River sands, each from a different location. Sample 1 comes from about a mile above Denison Dam (Denison, Grayson Co., Tex.), which impounds R.R. at this point, on a beach which has recently been underwater. No. 2 comes from immediately below the dam near the water's edge. No. 3 was taken about 5 miles below the dam and was probably deposited about 20 or 15 years ago when the river last flooded before the dam was built. That was when Red River was really red."—letter dated March 7, 1956, from Walter Scott Gray, Jr., 417 S. Perry Ave., Denison, Texas.

No. 1 is a medium grained, brown sand consisting chiefly of quartz (colorless, brownish, red carnelian, gray chalcedony, brown jasper) with smaller amounts of brown to pinkish feldspar.

No. 2—same as No. 1.

No. 3—same as No. 1 only fine gained.

Creek Sand from Pleasant Grove, Utah

"The sand comes from my placer deposit on the headwaters of the creek of the American Fork Canyon near Pleasant Grove (Utah Co.), Utah, and is the result of the biggest cloudburst so far recorded in these parts. This material should show good lead, silver, gold, zinc, also nice pyrite containing gold. Through the sands and gravels of this creek I find nuggets of lead, silver, gold, zinc. These nuggets are egg-shaped or rounded stream worn masses and should make nice cabinet specimens. The nuggets vary from tiny up to 90 lb. masses."—letter from W. H. Anderson, Pleasant Grove, Utah.

The sample is a coarse grained, brownish sand. It consists chiefly of pyrite (bright lustrous pyritohedrons, striated cubes, and fragments of both) with smoky quartz (some brownish also present). Small cleavages of galena, brownish limonite, and dark brown limonite pseudo after pyrite xls are likewise present and in addition a tiny amount of dull black magnetite. Only the quartz, limonite and magnetite show rounding—pyrite and galena do not.

Magnetite Sand from Blalock Island, Wash.

"I am sending you a small sand sample from Blalock Island in the Columbia River (Benton Co., Wash.). I don't know what is in this sand but I do know there's some gold on the island."—note from Ella Fletcher, P. O. Box 631, Grandview, Wash.

The sample is a medium grained, black sand. It consists chiefly of black lustrous magnetite with minor amounts of pinkish gemmy garnet, colorless to smoky quartz, and colorless zircon that fl. orange under the Mineralight. A few flakes of colorless muscovite also present.

Garnet Sand from Mount Isa, Australia

"I am enclosing some concentrates from the creek beds in the pegmatite areas around Mount Isa, Queens, Australia. They look pretty. I hope you like them."—letter dated April 2, 1956, from Kelvin Green, YMCA, Edward St., Brisbane, Queens., Australia.

The sample is a medium grained, reddish-brown sand peppered with black. It consists of deep red garnet (almandite), gemmy, many show good xl faces; whitish feldspar which is stained brownish by iron; and black magnetite (some show xl faces); a few iron stained (brownish) mica grains also present.

Beach Sand from Charlottetown, Canada

Charlottetown is the capital city of the province of Prince Edward Island, the smallest province of Canada. The city lies on the north shore of the Hillsborough River. Its harbor is capacious and secure, and is formed by the meeting of the Hillsborough, York, and Elliott Rivers, more generally known as East, North, and West Rivers.

From the beach at Charlottetown we have a sand sample that had been sent us by Glen E. Kiser, Douglass, Kansas.

The sample is a fine grained, reddish-brown sand consisting entirely of quartz (mostly brown, but some smoky also present).

Shell Sand from Athens, Greece

Athens, the capital city of Greece, is situated near the northeast shore of the Bay of Phaleron. From a beach on the bay we have a sand sample that was sent us by Mrs. Olive E. Looney, Lincolnville, Maine. The sample is a fine grained, brownish sand consisting chiefly of sea shells (brown, gray, white) with some colorless quartz.

"Sand from Phaleron Bay, Athens, Greece, May 1926. From collection of the late Dr. Long, Camden, Me."—on label.

Beach Sand from The Hague, Holland

The Hague, situated on the North Sea, is the capital of Holland. From a beach in the city we have a sand sample that was sent us by Mrs. Olive E. Looney, Lincolnville, Maine. The sample is a fine grained, gray sand consisting chiefly of quartz (colorless, smoky, brownish) and some sea shells (white, brownish).

"Sand from North Sea, The Hague, Holland, Aug. 13, 1934. From collection of late Dr. Long, Camden, Maine." —on label.

Beach Sand form Portrush, Ireland

Portrush (County Antrim), is on the north coast of Ireland. A peninsula of basalt, known as Ramore Head, runs out for 3/4 mile, and on this the town is built, having a deep bay on either side. A fine stretch of firm sand extends east for about 2 miles.

From a beach in the city, situated on the North Channel, we have a sand sample that had been sent us by Sandy Ramsey, 1015 Aikenhead Rd., Kings Park, Glasgow, Scotland. The sample is a medium grained, brownish-gray sand consisting chiefly of quartz (colorless, smoky) and sea shells (chiefly brown, but white, pink, blue also present) and a small amount of black magnetite.

The fossil collector will find ammonites and other fossils in the limestone around Portrush.

Beach sand from Kamakura Beach, Japan

Some time ago we received a sand sample labelled as coming from Kamakura Beach, Japan; it was sent us by the Rev. Wm. J. Frazer, 625 Main St., Moosic 7, Pa. We never describe a sand sample in this column unless its locality can first be spotted on a map—Kamakura Beach could not be spotted. We are fortunate in having 4 or 5 subscribers in Japan and one was selected (at random) in the hope that he might be able to help us. He could, and we received a most friendly letter from him but unfortunately again, our sand sample got mislaid and so his letter could not be printed until the missing sample could be found and examined. The sand has been found and here is the letter, dated Dec. 28, 1955:

"Your letter of Dec. 3rd came and in it your question as to the location of Kamakura Beach.

"To anyone who has been to Tokyo, Kamakura is a well-known name. In the town of Kamakura is located one of the famous large statues of Buddha and several shrines. Kamakura is about 30 miles south of Tokyo in Kanagawa Prefecture on the west coast of the peninsula on which is located Yokosuka Naval Base (U.S.). Quite close to Kamakura is the small but well-known island of Enoshima; as well as the town of Fujisawa, which should appear on most maps. Fujisawa is about 3 miles west of Kamakura.

"Kamakura is sort of the Coney Island beach of Japan. Certainly nothing wonderful about the place; dirty, crowded, poor swimming, etc. However, it is the closest beach to Tokyo, a city of some 8,000,000 people who for the most part have no transportation save the trains which take them there for a summer afternoon; or possibly over to Chiba Prefecture which is really very lovely. There are some interesting black sands in Chiba, some of which I believe are a source of titanium.

"Your letter mentioned Wakayama. I have yet to go far enough south on that

peninsula to see the beach there. I shall remember your request about beach sands, although must confess little knowledge as to what makes a sand of interest to a sand collector."—Frank B. May, P.O. Box 28, Akasaka, Tokyo, Japan.

Mr. May also sent in a small sketch showing the location of the locality and from it we learn that Kamakura Beach is on the northeastern shore of the Sea of Sagaminada (about 30 miles S.W. of Tokyo) on the southern coast of Honshu Island (Japan's largest island).

The sample is a dark gray, coarse sand consisting of colorless quartz, black lustrous magnetite, and a tiny amount of green olivine. There is also considerable sea shells present (white, pink, brown) and it is these sea shells that give the sand its coarseness.

Beach Sand from Dunure, Scotland

Dunure, Ayrshire, Scotland, is on the Firth of Clyde. From the beach in Dunure we have a sand sample that was sent us by Sandy Ramsay, 1015 Aikenhead Road, Kings Park, Glasgow S4, Scotland. The label reads—"This sand is from an agate beach (when the current sets right) and will probably consist of quartz fragments."

The sample is a dark brown, coarse sand. It consists of quartz (colorless, smoky, gray to red agate, gray to red chalcedony, brown jasper), gray to pinkish feldspar, dark red hematite, black magnetite, and some sea shells (white, pink, blue).

Letter to Editors of Kansas Newspapers!

Editor R&M:

The temperature is standing at 104 and here I am writing about rock collecting.

The enclosed letter came a day or two ago from the Kansas State Geological Survey. I thought, in view of reports from many places, it might be worth your printing.

This field trip idea of many clubs is endangering the entire hobby, I think.

Anyway, here is the letter.

Glen E. Kiser, Pub.
Douglass Tribune
Douglass, Kans.

July 26, 1956

THE LETTER!

Dear Editor:

If you've never received a letter about rock collecting and landowners' rights, we welcome you to read this one. In a way it is a counterpart of letters on "no hunting allowed"—with "collecting" substituted for "hunting". (But we hope it doesn't come to this.)

What brings the subject up is that rock collecting is one of the fastest growing hobbies in the country. Rockhounds in Kansas and elsewhere are on the trail of good places to collect rock and mineral specimens, and some of these collectors are thoughtless enough to leave in their paths broken-down fences, open gates, and damaged crops. In the last few months, several members of the State Geological Survey, University of Kansas, have been told about incidents of property destruction by mineral seekers in Kansas areas. We hope that these incidents are few, but the fact there has been thoughtless plundering gives us cause for concern.

We, the State Geological Survey, are the official agency charged with investigating and reporting on the state's geology, mineral deposits, and ground-water resources, in the interests of the Kansas public. We are therefore a primary source of information on the "where" of mineral and fossil localities that appeal to collectors. We are glad to pass the information along to any and all who make proper use of the material. Rock and mineral collecting we believe to be generally a wholesome, educational ,and enjoyable pastime; we do not, however, condone destruction of property and acts of noncourtesy on the part of those who pursue the hobby.

In fact we feel duty-bound to say something in this regard.

As an editor, you can help by reminding your readers (some of whom are undoubtedly rockhounds) of landowners' rights. We feel certain that most landowners will be glad to share their mineral localities with those who in return respect the landowners' rights. Asking permission to collect specimens, perhaps offering specimens in trade, and always leaving property as found are ways in which the rockhound can earn his welcome and keep to a minimum the "no collecting" signs .

Mrs. Grace Muilenburg, Information Counsel,
For the State Geological Survey, University of Kansas, Lawrence, Kansas.

July 18, 1956

WOMEN'S CORNER OF R&M

Conducted by Winnie Bourne
c/o Rocks and Minerals

Box 29, Peekskill, N. Y.

A recent trip to Quebec, Canada, with my family and the Editor of R & M, resulted in this amusing adventure.

On our last day of a very delightful visit to the city of Quebec, I decided to spend our last two hours there shopping. The men, of course, were not interested in shopping but would go on a tour of inspection of the old fortifications of the old city as Quebec is the only walled city on the American continent. So we parted in front of the hotel at 10 a.m., the men went on their tour while I and my two daughters, Barbara and Kathy, set off in quest of some good buys at the quaint shops and stores that frequent the lovely city of Quebec. We were all to meet at the hotel two hours later (12:00 noon).

Two hours later the men returned to the hotel, hoping to find us waiting for them, but we were not there. They waited ½ hour, one hour, and when two hours went by and still no sign of us, they were greatly agitated. Since the Editor had been to Quebec before and so knew the city better, he went out looking for us, leaving my husband, James, at the hotel. The Editor had an idea where I had planned to do my shopping and so headed for that area where he visited one shop after another and not finding me he got so worried as to actually stop policemen inquiring for us—he even visited the nearby police station in his efforts to trace us, and again—no results! Finally before starting on another search of the area, he called up the hotel again and to his great joy and relief received the good news that we had returned.

Now, where had we been all the time? Shopping—yes and no! We visited a few shops but finding nothing of special value I tired of it and then—got an idea. The night before the Editor had taken us all on a visit to Quebec's famous Dufferin Terrace—a beautiful, long and wide boardwalk overlooking the St. Lawrence River, hundreds of feet below. At the western end of this boardwalk was an exposure of dark gray (almost black) compact limestone. I decided to visit this limestone outcrop in the hope some good specimens might be found, as souvenirs of my visit to the city. The limestone looked most interesting and though I had no hammer, there were many loose pieces and I had a most enjoyable time examining them. A number of white, tiny calcite xls, coating the limestone were found. So interesting was my collecting, combined with the beautiful view of the river and surrounding area which could be scanned for miles, that I forgot completely we were due at the hotel at 12 noon. All of a sudden this dawned on me—I looked at my watch—it was 2:30 p.m. and grabbing an extra specimen—we practically ran to the hotel which was not too far away. Of course my husband was greatly relieved to see us, and so was the Editor, and they both forgave me for my episode as it was in good cause—mineral collecting.

Later my husband remarked to the Editor—"I had expected her to come in with an armful of bundles, but she and the girls arrived with their pockets full of rocks!"

Dear Winnie:

"I enjoyed your new column immensely and think it is a good idea for

us women to have a column of our very own. The following notes are a short history of my rock life."

How I Became Interested In Minerals

Having lived in Minnesota I was always interested in colorful and unusual rocks, but I did not have the right contact to become enthused enough to learn more about them. I came from a family of out-doorsy people and we had many excursions to northern and eastern Minnesota where we collected nature specimens. When I married and came to South Dakota twenty-one years ago, I had time to get outside during the day and look for natural history specimens. I became a Girl Scout Leader and after studying the Rock and Mineral Badge in our handbook, I decided to give the scouts that badge. A farmer friend gave me many pointers. Soon I was giving this badge to any scout who desired it. Through this man and his wife I met many other rock hounds and that was the nucleus of my rock collecting.

My Girl Scouts and friends have helped me start a Natural History Museum. Needless to say, three-fourths of the items are rocks, minerals and fossils!

In my immediate vicinity I find *ostrea congesta.* S. D. pipestone, selenite gypsum crystals, fibrous calcite, calcite crystals, limestone, aragonite, quartz, some agates, chalcedony and petrified wood. About 75 miles from here at Milltown, S. D., we find shark's teeth and belemnites which we dig out of the hills with a pen knife. Along the Missouri River shores we find agates, chalcedony, pyrite

A corner of Mrs. Olson's Museum in Beresford, S.D. (Mrs. Edwin P. Olson and her father, Fred Smith).

in shale, *ostrea congesta,* flat clay pebbles. At Anoka, Nebraska, which is just 15 miles south of Pickstown, S. D., we find opalized wood.

In the Black Hills and Badlands, about 400 miles from here, we obtain just about everything. My husband found a lovely Fairburn agate near Fairburn, S. D. Badlands, but they are quite hard to find. I find nice Badland agates which are lovely when polished, but have never found a Fairburn, although my friends call me "Old eagle eye."

I do not have a cutting or polishing machine or even a tumbling machine but I am hoping.

Mrs. Edwin P. Olson
Box 425
Beresford, S.D.

What a coincidence. We had no sooner acknowledged the letter from Mrs. Edwin P. Olson of Beresford, S. D. (in the west), when along comes another from Virginia Olson of Noroton Heights, Conn. (in the east). Here is Virginia's letter plus a most interesting article that she had written for us.

The two rock specimens Virginia sent are both mica schists and yet they do not appear alike. The one from Bailey Island, in Casco Bay, near Portland, Me., is a typical lustrous silvery mica schist (somewhat iron stained, however), but it contains tiny, dark red almandite garnet xls; the other, found in a neighbor's lot, is a dull black unattractive specimen—just a "rock."

Dear Winnie:

"Maybe there are other parents in this same predicament. I can not contribute anything scientific to your magazine, but maybe some of your readers might get a laugh out of what has happened to one bewildered parent of a junior "rockhound." I have done it in the form of a letter because it seems to give one a better chance to make my explanations that way. I must add that until about five years ago I only knew that 'diamonds were a girl's best friend' and a rock was something one threw at a dog.

"The two pieces I have mentioned will be sent along under separate cover. I wrote this many months before an article appeared in your magazine about the 'Pebble Pup' and then when I saw that, I hesitated to send it. However, I still feel that I would like to thank your advertisers and you. I might add that 'The Chippers' are now in the jewelry making business but that has not progressed far enough to make any statements as yet."

Virginia H. Olson,
356 West Ave.,
Noroton Heights, Conn.

A Bewildered Parent!

Dear Winnie:

"I am addressing the following to you personally because I feel that the Women's Corner of R & M is the proper department in your life saving magazine.

"As the mother of an avid thirteen year old 'rockhound', I agree with Mr. French as to the terminology. There are geologists, mineralogists, gemologists, and chemists. However, these people who collect rocks and have not had the formal education in some phase are just plain 'rockhounds', except at odd and peculiar times when they become 'rockheads'.

"The one I live with is not a novice. We have been kicking the rocks around here for about five years. Therefore, I hesitate to send in her name to the column which so ably assists them in acquiring more specimens. I can not stand the thought of receiving one more piece of quartz (milky, rose, rutilated, or star); mica (muscovite, biotite, or botryoidal); many types of feldspar, garnets, asbestos, albite, calcite, several Franklin minerals, and about 256 other assorted rocks, minerals, and crystals.

"We never go to visit people or to see anything new and different, except another quarry. A day's outing or a week's vacation always ends up on the rocks. We have covered every likely spot within a day's drive and the little maps in R & M are always helpful. Danbury,

Roxbury, and Branchville, Connecticut; Bedford and Tilly Foster, New York; and Franklin, New Jersey are some of the places. Two trips to Maine were dotted with many stops here and there. Of course we find many things of great interest, but I am sure we will never in the world know what they are until *she* has had a chance to attend a recognized school of geology.

"For identification though, I am sending under separate cover a piece of a thing which *she* dug out of a neighbor's lot several years ago. It was about as round as a basketball before my husband wacked it in half with a pick bought from 'Technicraft'. As a whole it was all he could lift. It is grainy looking with dime sized holes scattered over the outside. These do not penetrate too deeply and hold nothing. Several graduates from schools of geology have looked at it and shrugged their shoulders saying, 'I do not know.', My daughter continues to wonder what it is, so therefore we are now asking you.

"Most children accumulate the old favorites in the field of literature, however, *her* library is not filled with these. Oh, no! Instead they are books by Dana, Pough, Zim, two by the Fentons, English, Dake, and Whitlock. Mr. Casperson's pamphlet on fluorescence and Mr. Brigg's (Stonerock) 'Maine Minerals' are there. As yet *she* does not have Prof. Palache's pamphlet on the Franklin minerals. Of course instead of 'Polly Pigtails' *she* has ROCKS AND MINERALS'. *Her* Christmas stocking last year held the pick, a compendium and 'The Quartz Family' all from Technicraft.

"The disease, 'Rockitis', is catching because *she* now has three friends interested to the point where they have formed the Chippers Club. Instead of one I now have four, plus a rock store. That is the back porch. The owner of a nearby candy store threw out a show case which was retrieved by *her* father and uncle. It has been refinished by *her* and all the youngsters in our neighborhood now buy rocks instead of candy.

"The club works in quite an ingenious way. They each pay 25c per month and when this, plus what they have collected from their store reaches the vast sum of about $5.00, out comes 'ROCKS AND MINERALS'. At this point I would like to request all of your advertisers to beware and run for cover. One of them will surely have the evil eye cast in his or her direction. Those ads are scanned, rescanned, and carefully weighed. Some of their targets so far have been 'Stonerock' Briggs, the Agatique Shop, Mr. Dannenberg, and Mr. Januzzi. Please let me compliment these and any others on their kindness to the children with their $1, $2, $3 orders. I am sure they have all wondered what goes on. The above are some that I have made out checks for, but I am certain there are others to whom a few coins have been mailed in an envelope. The Chippers have been well pleased with everything they have received.

"Their system is to buy a sizeable piece of something or '10 for'. The larger pieces are broken and if they get more than four chips the rest go in the store with the surprise packages, and the assortments. I might also add at this point that one of the members recently had a birthday and I let her make her own selection for a present. It was a 'ROCKS AND MINERALS' subscription of course.

"It has happened to *her*. One day while mosying along the dump at Branchville, Conn., my junior 'rockhound' stopped, stooped, and picked up something. *She* carefully looked and turned it over in *her* hand. The remark of 'not bad' made me ask to see it. *She* had found twinned quartz crystals in the form of a lopsided cross with some kind of a drusy coating on the outside. *She* has not as yet found a geode, but when *she* does it will be a day for great celebrating.

"We have all read with great interest the pros and cons of the red obsidian. We know where there is a perfect red obsidian arrowhead. It is a clear cherry

red without streaks of other colors and shows the marks of the implement with which it was made. I know it has been in one place for many years but now, because of some items in R & M—and a certain look of my daughter's, I feel it will shortly change hands.

"To go back many years in the past, I now remember picking mica out of the rocks on the northern end of Chebeague Island, in Casco Bay, Maine. That is a bit south of Pemaquid from where the Sand Collector received a sample of mica beach sand. During a storm the surf boiled up many flakes of mica in the sand on Chebeague. Also, nearby, there is another smaller island which is quite inaccessible without a private boat. The name of this one is 'Jewell'. We used to pick up many colored beads in the small pools formed in the rocks on the ocean side of the island. At the time they meant nothing to me, but now I presume the island was so named because of these particles. They were nicely tumbled and polished by the surf and were practically every color of the rainbow. Perhaps there is a 'rockhound' in that section who could get you a sample. On Bailey Island, another one in the group, there is a mica schist ledge. Two years ago we spent the hottest day of the summer picking garnets out of this ledge. I will send you a piece we pried off and then you will understand why there are mica bits in the sand along that part of the coast.

"Winnie, please do not think I am grumbling, for I am not. I have learned a lot and if I could go back to college I would certainly take a course in Geology to keep one jump ahead of *her*. Please, Winnie, what do we do now?"

Willard Rogers, Mineral Supply Firm Owner, Dies

Willard Theodore Rogers, 55, 1230 Parkway Avenue, Salt Lake City, Utah, owner-founder of the Rogers Mineral Supply Co., died early Tuesday while en route to a hospital. Cause of death was listed as a coronary occlusion by an attending physician.

Mr. Rogers was born Nov. 15, 1900, at Fillmore, a son of Willard and Lilly Powell Rogers. He married Dorothy Shepard in the Logan Temple, Church of Jesus Christ of Latter-day Saints, on June 4, 1926. He had lived in Salt Lake City for the past 15 years.

At the time of his death, he was drafting engineer for the Kennecott Copper Co., a position he had held for 27 years.

DESERT NEWS AND TELEGRAM,
Salt Lake City, Tuesday, July 10, 1956

Wants News of Oregon!

Editor R & M:

Couldn't do without R&M after enjoying it for a year—but can't you get more Oregon news? This is such good hunting territory.

Helen L. Garner
906 - N. 8th.
Coos Bay, Ore.

July 11, 1956

Editor's Note: Will somebody oblige the lady and send us an article on an Oregon locality. She will appreciate this and so will R & M.

LOOKING BACK TWENTY-FIVE YEARS AGO

in Rocks and Minerals

Sept. 1931 Issue

The Sept. 1931 issue of R & M was our 5th Anniversary number. Some of the articles appearing in this issue were:—

Our 5th Anniversary—a brief review (How Rocks and Minerals came into existence)—pp. 89-91.

A unique occurrence of limonite after wood, by Louis Reamer—p. 97.

The golden granite near Peekskill, by T. W. Fluhr—pp. 98-100.

Irish turf Industry, by P. Ormby Lennon, pp. 102-107.

Metropolitan Mineral Area of New York City, by James G. Manchester, pp. 114-125.

A brief history of volcanology, by Eugene W. Blank, pp. 126-129.

A trip to South Death Valley Nitrate Fields, by W. Scott Lewis, pp. 132-133.

The Amateur Lapidary, conducted by J. H. Howard, pp. 138-139—This was the 1st appearance of the lapidary department, the feature that was to revolutionize mineral collecting in America.

THE GEM COLLECTOR

Conducted by Bill Cole
408 Dickinson, Chillicothe, Mo.

LAPIS LAZULI

Of the many blue stones in the world of gems, one in particular that was valued above all other gems of a blue color by the ancients, was Lapis Lazuli or as it was called then Sappirus.

The gem Lapis is not a distinct mineral but a rock composed chiefly of three minerals namely a very intense blue mineral known as Hauynite and varying amounts of Pyrite and Calcite. The mineral Hauynite is a Sodium Aluminum Silicate similar in composition to some varieties of Garnet. And so the more Hauynite present in a specimen the better the color and durability since it possesses a hardness of 6 on the Mohs scale, The Pyrite and Calcite are more or less impurities which lighten the color and soften the stone, however in some instances the Pyrite occurs as very tiny isolated crystals or grains uniformly distributed throughout the stone and in a polished gem is quite beautiful and to some resembles the star studded night sky.

The specific gravity of the gem varies considerably since Pyrite has a S. G. of 4.94 the Calcite 2.72 and Hauynite 2.45 so the S. G. of Lapis as a whole depends on the amount of each mineral present. The hardness is also quite variable in a single gem the hardness varies enough to cause considerable undercutting, a plague of many lapidaries, this however can be overcome and reduced to a minimum by very careful wet sanding with 400 to 600 grit paper, and polishing on a leather wheel with Chrome oxide.

A mineral which resembles Lapis closely and is often confused with it is Lazulite which has similar physical appearances but very different chemical properties.

The usual style of cutting Lapis is in the form of low cabs and beads, but it is also well adapted to small carvings and inlay work.

The history of Lapis is a very ancient one going back to the earliest recorded history, in fact, it is mentioned several times in the Old Testament under the name of Sapphire. The early Egyptians prized the gem highly and many fine examples of the stone are found in the ancient tombs along the Nile. The chief use of Lapis by the Egyptians was in the form of beads which were strung on a Gold wire or chain. Many times the Lapis beads were alternated with beads of Carnelian which presented a pleasing contrast of color.

During Pliny's time Lapis was held in high esteem and ranked along with the other precious stones like Ruby and Emerald. Most of this Roman material came from the mines of Badakishan, Afghanistan, which were worked as early as 3400 B. C. and it was probably traded to the Roman gem merchants for Copper and Gold which were commodities lacking in Afghanistan and much sought after by the early traders of that country, thusly a large amount of Lapis and Turquois reached Rome and subsequently became a very popular gem.

In later years the Chinese used Lapis extensively for carving small figures and symbols some of which are the finest examples of gem carving in the world today.

From ancient times until fairly recently Lapis was the sole source of the beautiful blue pigment known as Ultramarine which was so in demand by artists. And it is this rich shade of blue that was used so extensively by the old masters of the Renaissance period. Now days Lapis is used only for ornamental purposes for the pigment Ultramarine is manufactured synthetically by a process where Kaolin, Sulfur and Sodium carbonate are fused together and finely ground, this results in

a pigment of a fine blue color which can be varied slightly by controlling the amount of each ingredient.

The principal world localities which produce good quality Lapis are Lake Baikal, Siberia; the province of Badakshan, Afghanistan,. . . this the oldest locality and one of the best known of all localities for fine blue material which occurs in a fairly dark limestone in the form of narrow veins. There is also a variety of Lapis found in Ovalle, Chile; this material contains veins of white Calcite and is not as high a quality as the Afghanistan variety, however it yields very beautiful blue gems mottled with snow-white and may be preferred by some cutters.

Lapis may be quite disappointing to some amateur cutters because of its tendancy to undercut, but by choosing good firm material and working slowly through several grades of wet sanding a fine polish results and a good gem is obtained to add to your collection.

Write your favorite dealer today and see if he can supply you with some good Lapis—one of the oldest gems in the world. Two good sources of Lapis are Plummer's Minerals of San Diego, Calif., and Parser's of New York, both can supply Lapis of a very fine grade well suited to cutting.

EDITOR'S NOTE: The Lapis locality at Ovalle, Chile, has been closed for sometime but one of our subscribers in Chile (an American) has obtained a controlling interest in the mine and may reopen it in the near future.

Collector's Corner

For the special benefit of collectors who may be living in areas far removed from other collectors we have opened this feature. In this corner, a collector may have his name and address listed for the purpose that other collectors may write him in the hope that through correspondence, exchange of ideas and specimens, new friendships may be formed. Listings are free.

H. J. Kendrick, Ophir,
San Miguel Co., Colo.

Theo. Kirschman,
Haswell, Colo.

Meade B. Norman, 1524 Mitchell Ave.,
Tallahassee, Fla.

Steven Sturm, 521 Roosevelt Ave.,
Kewanee, Ill.

Edward Rushton, 730 Bexley Road,
West Lafayette, Ind.

Jimmy Henderson, (13 yrs.),
1345 W. 10th St., Bogalusa, La.

M. H. O'Brien, 2927 Vandenberg Rd.,
Muskegon 36, Mich.

Joseph Jeski (13 yrs.), 676 Humboldt St., Brooklyn 22, N. Y.

Lynn Wilder (16 yrs.) Box 51,
East Randolph, N. Y.

Robert Pasca,
395 Sussex Rd.,
East Meadow, L. I., N. Y.

Harold J. Lienemann,
Box 42, Gouverneur, N. Y.

Mrs. Ammon Schwartzbach,
2239 Logan St., Harrisburg, Pa.

Mrs. Tres, Lawhead, 3rd St.,
Roulette, Pa.

Walter Scott Gray, Jr., 417 S. Perry Ave.,
Denison, Tex.

Earl Medlin (16 yrs.),
1301 N. Oak,
Mineral Wells, Texas

P. M. Plimmer, Box 701, Alpine, Texas.

G. W. Weber, 1320 Portland Ave.,
Walla Walla, Wash.

M. W. Anthony, P. O. Box 260,
Bellingham, Wash.

W. Erlach, P.O. Box 52,
Umtali, Southern Rhodesia,
South Africa.

FOSSIL DEPARTMENT

Conducted by Howard V. Hamilton
1340 Crandall Avenue
Salt Lake City 6, Utah

FOSSIL COLLECTING AT EIGHTEEN MILE CREEK, ERIE COUNTY, NEW YORK

By: RICHARD COLLIN
105 Davidson Ave.,
Buffalo 15, N. Y.

and

ALLEN STOIBER
136 Davidson Ave.,
Buffalo 15, N. Y.

Eighteen Mile Creek flows westward into Lake Erie from the Boston Hills. It enters the lake approximately twenty miles southwest of Buffalo. The locale we will discuss here is an exposure of Middle Devonian rocks between Route 5 and old Lake Shore road, a short distance from where the creek flows into Lake Erie. This area is one of the earliest known fossil collecting areas in western New York. The occurrence of fossils here was first noticed by the people who settled here about one hundred years ago. The first extensive collecting was done by James Hall who described many of the fossils now found there. Since then, this area has been a popular collecting locale for visiting paleontologists and amateur collectors as well as those already residing there. It has been well picked over in the last few years, but still has a wide variety of fossils to offer anyone willing to hunt for them.

The rock formations of the Eighteen Mile Creek locality are largely Middle Devonian in age with a small amount of Upper Devonian. They form a shale and limestone cliff about four-tenths of a mile long and some fifty feet high along the bank of Eighteen Mile Creek between State highway #5 and the Old Lake Shore road. Here the Wanakah shale and Tichenor limestone members of the Ludlowville formation and the Windom shale member of the Moscow formation are exposed. Figure 1 shows a generalized

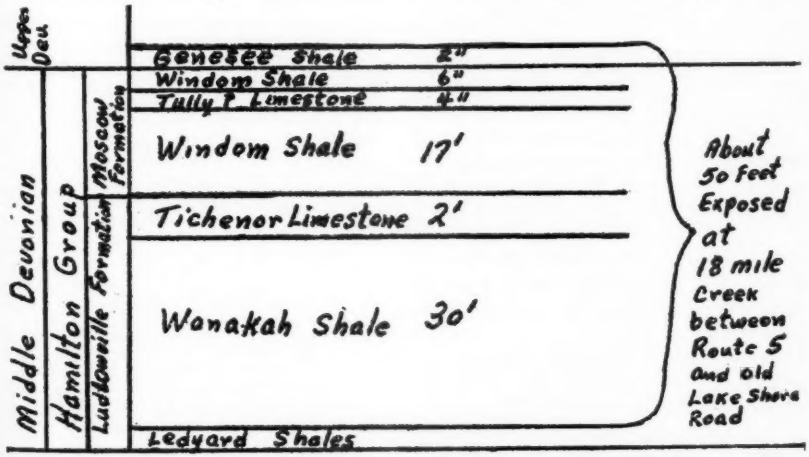


Fig. 1. Generalized Geologic Section at 18 mile Creek, N.Y.

section of this locality. A talus slope has, in recent years, developed along the base of this cliff, making the exact age of the various fossils found difficult to determine.

The majority of the fossils may be found in the Ludlowville formation. In the thirty foot thickness of the Wanakah shale, a wide variety of brachiopods, corals and bryozoans are found. Some of the brachiopods are *Athyris spiriferoides, mucrospirifer mucronatus, Strophеodonta demissa, Tropidoleptus carinatus* and *Atrypa reticularis*. The corals include *Stereolasma ungula, Stereolasma rectum, Heliophyllum halli,* the tabulate coral *Pleurodictyum stylopora* and several of the genus *Cystiphyllum*. In some beds, broken pieces and an occasional whole specimen of the trilobite *Phacops rana* occur.

Over one hundred species may be found in the Wanakah shale, many of which can be found at Eighteen Mile Creek.

The Tichenor limestone varies from two to four feet in thickness. It is a massive grayish or brownish rock and is richly fossiliferous. It is specially noted for its huge Favosites colonies. Some of these reach a diameter of two feet or more. There is an abundance of crinoid stems. Some of the fossils occurring in the Wanakah shale are found here also. Examples are the trilobite *Phacops rana* and the brachiopod *Athyris spiriferoides*.

The Windom shale varies considerably in thickness, in some localities up to 50 feet. Here it is about 10-12 feet thick. A few feet above its base, the small brachiopod *Ambocoelia umbonata* is extremely abundant. It may literally be found by the hundreds. Corals and trilobites are fairly common in some beds. The trilobites *Phacops rana* and *Greenops boothi* are found here along with the brachiopods *Atrypa spinosa* and *Atrypa reticularis*.

The local rock formations dip approximately ½ degree to the south. Thus the Windom shale appears at the top of the cliff near the Old Lake Shore road and gradually descends until it is down to water level a short distance upstream from Route #5. Further upstream, Upper Devonian shales and limestones are exposed. These are for the most part unfossiliferous, but occasional fish plates and other fossils are found.

The Eighteen Mile Creek locality is only one of many in western New York where fossils may be found in variety and abundance. The same formations mentioned here form outcrops in at least a dozen other localities in Erie County alone. The locality described is not the best that the area has to offer. In one afternoon's collecting, however, specimens of the fossils mentioned above and a number of others may be found. If any of the readers are interested, we have duplicate specimens for sale or trade.

Thanks Us for Publishing R & M!

Editor R & M:

Please find enclosed my check for renewal of my subscription to the very valuable and most interesting magazine, ROCKS AND MINERALS. It is a source of unending pleasure and information. Thank you for publishing it.

Mrs. David H. Keller
55 Broad St.,
Stroudsburg, Pa.

Aug. 24, 1956

Still Catching Up!

Editor R & M:

I enjoy your magazine more than any other and would not be without it.

I am still trying to catch up with the requests, I received from your printing my letter, informing your readers that I had some minerals that I would be glad to exchange with other collectors last Oct. I received about 70 inquiries, and I still have some left to contact.

Lucius P. Covey
22 Addison St.,
Laconia, N. H.

Aug. 13, 1956

So Much For So Little!

Editor R & M:

Enclosed find three dollars for another year. I shall always be a subscriber as I have never paid out so little and gotten back so much. Keep up the wonderful work.

Verloyn Bettcher
665 West 1st St.
Winner, S. Dak.

July 29, 1956

THE AMATEUR LAPIDARY

Conducted by Captain George W. Owens

Hq Sq 384th Bombardment Wing, Little Rock Air Force Base, Jacksonville, Arkansas

Amateur and professional lapidaries are cordially invited to submit contributions and so make this department of interest to all

THE OPAL

Several years ago an Australian friend of mine, a regular cove as they would say, a gentleman of the old school and a connoisseur of the fine things in life, sent me several fairly large pieces of rough gem opal that he had acquired. The actual grade and variety of these pieces were unknown to me since I had not devoted any great amount of effort toward learning the "ins and outs" of the opal game. This was the beginning of my fondness for opal. Suffice to say that since that time, many many hours have been spent studying, learning, and collecting that most fascinating of all nature's magnificent bounty—the Opal.

Opal is beyond doubt the most colorful of all our precious gems. It has a long and interesting history as our ancestors also appreciated beauty. It was undoubtedly one of the first gems gathered, hoarded, traded and bartered. There are many stories of opals, some traced to what Pliny said or what Pliny didn't say. Not being too interested in history, I shall not bore you with a rehash of the many and varied tales or repeat the story of Raleigh. But I should like the opportunity of telling you something of the modern day opal, the treatment, care and mounting of a particular opal, just finished and now reposing in my collection, as well as mentioning both "solid and "doublet" opals.

"Solid" is just what the name indicates—a solid chunk of gem opal processed into a valuable gem by the art of the lapidist, while a "doublet" is comprised of two pieces cemented together—one, a gem opal, and the other, usually thicker and heavier, piece being either "potch" (a name of a cheap grade of opal) or some other substance such as obsidian, opaque glass, or even in a few cases, agate. Some seam opal is used in the making of doublets.

Since so few "diggers" are now in the fields, the strikes or "bottoming on a jewelery store" as would be said in Australia, are few and far between. The price of gem opal has risen to one of the highest in history of the fields. Eighty to one hundred pounds for an ounce of gem grade doubletting material. This boils down to some $180 to $225 an ounce for average grade gem opal ON THE FIELD, with high-grade pieces being sold by the individual chunk. Pounds of potch and cheap milk opal are mined for every ounce of gem opal recovered. And while I'm on the subject of price—let me say that black opal, that beauty which defies description, that gem sometimes called the foreshadowing of the lights of Judgement Day—whose beauty is unsurpassed by any other mineral—why, good black opal is currently priced at a mere one hundred dollars a carat—when it can be found. So those of you fortunate enough to have a piece left over from the "good old days" are indeed to be congratulated for you have a now rare item.

Annually the Great American Market inhales and absorbs a tremendous amount of potch and milk opal as well as a very, very few, pieces of gem opal. Naturally, this has had its effect on price. Actually, few pieces of gem opal ever leave Australia uncut. (Why sell in the rough something that when processed with a few hours of labor will yield many more times its basic price?) True gem opal,

when in the rough, cannot be evaluated by the ounce. It is always judged and valued by the individual piece—a trick picked up, I might add, by one or two unscrupulous dealers to charge extremely high prices for only average grade opal. Fortunately these dealers are but few, and their day is coming or has already arrived. As mentioned, few pieces of true gem opal ever leave Australia uncut. Now, my friend down under occasionally sends me a few pieces of the finer grade of gem opal with an outstanding top quality piece arriving maybe once a year. He has recently surpassed himself and I now have a lot of pleasant cutting time lined up for cold weather.

But wait a minute, back at the start of this tale, mention was made of several large pieces of opal. These were thought to have been cut long ago, but recently in going through one of those boxes of stones put aside to do sometime (we all have at least one such box, I'm sure) the largest and best opal of the lot, carefully wrapped and scrupulously labeled was found. It was a beauty! Even in the rough the vivid play of fire and range of colors stood out like a rainbow in the late evening sky.

Needless to say plans were immediately made to polish and attempt to improve its already outstanding beauty. The rough stone was so shaped that very little remained to be accomplished in turning it into a finished gem. It was a rough pendeloque shape approximately 52 mm long by 27 mm wide, with an average thickness of 8 mm. Its size was such that there was no point in dopping it. So it was, from start to finish, hand held. By lightly grinding the surface area on a 220 grit wheel the outer "skin" or wall material with its accompanied stains were removed to reveal the true beauty of the piece. A careful shaping followed. No standard size, this gem. The idea was to retain the maximum amount of this lovely stone and still shape it into a modern acceptable form. This was accomplished by further grinding on the 320 grit wheel. When the grinding was completed a cautious sanding was begun. Copious amounts of water were used in all phases as it was desired to prevent even an off-chance that a heat crack could develop. Sanding was on a 400 grit speed/wet disc backed by a layer of felt; this was followed by a well worn disc of the same material in 600 grits. It is possible that more work could have been accomplished on the 320 grit wheel thereby saving a considerable amount of the time spent on the sanding stages; however, it was believed that the stone may have been damaged in such a process and by spending more time on the sanding there was less opportunity of an accidental slip or bounce on the grinding wheel. The stone was slowly turning into a true gem and as the last few revolutions of the sanding disc turned by, I resolved to set the opal in a simple gold mount—provided the polishing process was as successful as had been the sanding.

Polish of the gem was obtained by using a good medium hard felt (which I prefer for all opal instead of the usual "rock-hard" variety) and a thick paste of cerium oxide.

Not wanting to build up hot areas in so large a stone, every care was given to keep the opal in constant motion and to assure an ample water supply. Probably an over abundance of both water and cerium oxide was used, the thought being to be safe rather than sorry. At any rate a fine "first" polish was achieved. The stone really commanded attention. The term first polish is used because the stone was later given a final polish using a soft cloth wheel and good dark red rouge. It was a gem! As finished, it was exactly 50 mm (almost two inches) long and a very slight amount over 25 mm wide—one inch at the widest part, tapering up in a gentle curve to an apex of 6 mm or about one-fourth inch.

Immediately a very simple design for a mount was made. At first it was made to include mounting a beautiful blue sapphire at the apex of the opal, but when laid out on paper with the opal and sapphire in place, it was immediately apparent that the opal was so outstanding as to need no lift from the sapphire. So

the drawing was remade to include only a simple plain bezel and back of 14k yellow gold. The back of the mount was to protrude above the bezel just far enough to allow drilling a hole for a ring so that the mount could be suspended from a chain. Twenty-two gauge 14K yellow sheet gold was used for both bezel and back. By scribing around the stone a true back was cut. The bezel was welded around the outside of this back. The bezel was just a strip of the sheet gold. It was notched and filed down at the apex part so that it could be joined and leave a part of the back sticking above or out from the bezel to provide a means of suspension. Welding was accomplished using a canned fuel torch and 14K yellow gold filings mixed with Handy and Harriman flux. It was a pleasure to work with the gold. It is so much easier to work, cut, weld and shape than silver. All of our true gems are worthy of being set in gold rather than the sterling so many of us use. Actually, all amateur silversmiths should try at least one piece of gold work just to see and enjoy how easy it welds, if for no other reason.

The mount was pickled in the same manner as that used for silver, washed clean and the bezel edge slightly filed to make setting the stone a simple problem. The resultant file marks were cut or rubbed out with a scotch stone and the mount was then given a basic polish. The polish was not really necessary at this time except for the natural desire to see how it was going to look when finished. This polish would also show any minor scratches that could be cleaned up prior to setting the stone so that after the stone was mounted, a minimum of such work would remain. It was desired not to generate any more heat than necessary once the stone was mounted so all visible work marks were removed at this time. The opal was then carefully inserted into the mount, and without using any holding device, was set. Upon completion of this task the scotch stone was again used to remove the few marks made by the pusher. The gem and mount were then given a thorough polish treatment using a knife edge felt wheel around the mount at the edge of the stone and then an overall polish using a soft cloth wheel impregnated with red rouge. The "store-bought" ring was inserted and polished. The completed piece was then thoroughly washed in warm water and soap, dried and made ready for the chain.

If one could live to equal the age of Methuselah I do not believe that they would ever see a more beautiful example of Mother Nature's work, with all her lavish splendor, than she has provided in this opal in its simple mounting of gold—beauty unsurpassed.

Helping Hand for R & M!

Editor R & M:

I thank you for your letter of the 23rd of June, 1956 and I regret this late reply which is due to my having been on leave and my absence from the territory. I have received the subscription form together with a copy of ROCKS AND MINERALS which I have found most interesting and for which I thank you. Enclosed is a bank draft for $3.00 together with the completed subscription form. I trust that this is in order. The extra forms I have handed to interested persons and I hope that you have received some response. Kindly forward more of these forms as there are very many interested persons to whom I shall be able to distribute them.

G. E. Wepener,
c/o Mines Department
OMARURU.
South West Africa

Aug. 23, 1956

Has Been Enjoying R & M Since 1938!

Editor R&M:

I am pleased to renew my subscription to ROCKS AND MINERALS. This time make it two years of good reading instead of the usual one.

My friend Bill Hull introduced me to ROCKS AND MINERALS in 1938 when I was a member of the Engineering staff of the Board of Water Supply, and when we were building water tunnels for this City's added water supply. Since that time I have been telling collectors (young and old) about your excellent journal.

Winston Gold
40-24 167th. St.
Flushing 58, New York,

July 7, 1956

Club and Society Notes

Attention Secretaries—Please submit neat copies. Give dates and places of meetings. Check names for correct spelling.

East

Mineralogical Society of Pennsylvania

The July Excursion of the Mineralogical Society of Pennsylvania was taken on Sunday the 8th, to the Buckwheat Mine dumps, of the New Jersey Zinc Co. of Franklin, N. J.—148 persons availed themselves of the courteous permission granted to our Society to go over this fast disappearing aggregation of most interesting rocks.

Many found traces of the rare minerals that have made this place famous wherever minerals are the prevailing hobby. The chances of getting some real worthwhile species even tho microscopic, was a strong inducement for the members to dig and crush with energy. The abundant calcite boulders yielded splendid examples of varying pink for the short wave lamps. What an indescribable sight these dumps would produce were it possible to illuminate them, all at once, with appropriate light rays. Franklinite, from large masses to perfectly formed tiny crystals, was most plentiful. Apatite, chondrodite, fowlerite, jeffersonite, norbergite, phlogopite, tremolite, willemite, quartz and zincite, etc. were reported as being found. The privilege of working over these interesting dumps was certainly very much appreciated by those present and those unavoidably absent, suffered pangs of regret when they thought of it.

Harry W. Trudell,
Member Publicity Committee
1309 Highland Ave.,
Abington, Pa.

Rockland County Mineral and Gem Society Spring Valley, New York

At the regular meeting of the Rockland County Mineral & Gem Society, Mrs. William Jordan of Pearl River, gave a lecture and

Collecting on the Buckwheat Mine dump, Franklin, N. J. — July 8, 1956, field trip of the Mineralogical Society of Pennsylvania.

Photo by Harold Evans

demonstration of "The Physical Properties of Gems & Minerals." She showed the different ways that minerals in the rocks could be identified, from the locations of where they are found, weight; color and streak test: this would be "on-the-spot" tests, after which laboratory tests could be made to substantiate the information. Mr. Thomas C. Wilfred of West Nyack, showed the identification of a gem when cut and polished, such as lustre; color; hardness by the Moh's scale, its specific gravity by immersion test. He also showed how to use the refractometer and polariscope.

The meeting was well attended, as was the week-end Field trip to Herkimer, N.Y. starting on Saturday morning at 6:00 a.m. on May 26. They found some very nice "Herkimer Diamonds" on Saturday, but owing to the inclement weather on Sunday, further search was abandoned.

There was a very good attendance at the regular meeting held in June, the attraction being the two hour program given by Mr. Victor Pribil, Secretary of the New York Mineralogical Club. He showed a colored film in three parts of the cutting; grinding and polishing of gem stones from the rough to the finished gem stone ready for mounting. Mr. Pribil's equipment is all designed by himself, and all parts were obtained from surplus. He showed how much better it was to make one's own tools and how he has simplified many pieces of equipment into one all-purpose machine with various adapters for cutting; grinding and polishing. He also uses plain water as a lubricant.

Mr. Pribil exhibited a varied assortment of gems which he had processed during the filming of the picture. Mr. Pribil classifies himself as an amateur, but it is well-known amongst the professionals that amateurs such as Mr. Pribil can sometimes gain a higher degree of perfection than the professional can because of time and patience spent on such an operation.

Mrs. William Jordon, Program Chairman, presented Mr. Pribil with a beautiful specimen of blue fluorite whilst the refresments were being served.

The field trip of the month was to Pine Island, Orange County, N.Y., to a limestone quarry; eleven members attended.

At the July business meeting of the Rockland County Mineral and Gem Society, Mr. Thomas G. Wilfred of West Nyack, explained the use of the Polariscope in determining the gem by the angle of the light refraction passing through the crystal by the polarization of the light passing through. Mr. Wilfred was assisted by Mrs. William Jordon, program chairman, who had worked some weeks ahead making these pocket polariscopes for the members.

The Mineral display of the Rockland County Mineral and Gem Society won first prize at the Orangetown Fair held at Middletown, N.Y. for the best in Hobby displays.

Twenty-seven members and families enjoyed an all day Field trip to Stirling, N.J., in search of carnelians in the river, many nice specimens were found which entailed a lot of hard work of digging and sifting.

Marguerite R. Collyer,
West Nyack, N. Y.

Connecticut Valley Mineral Club

The rare opportunity to collect at an operating trap-rock quarry came our way for the April field trip. Grant Whidden arranged the visit to the East Granby, Conn., quarry which yielding calcite, quartz crystals, chalcedony, chlorite, amethyst, chalcopyrite, the bituminous material called, tentatively, albertite, and a vein of nice prehnite which kept half a dozen men busy all morning. The afternoon was spent at the Newgate Prison copper mine dump which produced only films of malachite and bits of antique (?) colored glass. John Bokeny brought his scintillator and John Paluch his Geiger counter and both instruments showed mild activity in the area.

In May the Club visited Canaan and Salisbury, Conn., the limestone quarry and the old iron pits. After collecting mountain leather at the New England Lime Co., quarry, with tremolite and chalcopyrite in limestone, the group lunched at the Beckly blast furnace located nearby, the first stop in the tour of Salisbury landmarks. At the Salisbury Town Hall is the trip hammer and anvil base from the Mt. Riga iron works, the road to which passes beside the town hall. At Lakeville today only markers are left to indicate the flourishing iron industry dating from Revolutionary War times. Ore Hill Mine, once a mountain, now a lake, was the most famoue ore bed, supplying ore to furnaces in Connecticut, Massachusetts and New York State. Lime Rock, where a millstone now marks the site of the first bloomery, or forge, can boast of one of the most beautifully located and preserved blast furnaces remaining. Mrs. Singleton Fish, real estate agent and owner of the property, has converted the old mill house into a French country home and is gradually replacing the old furnace fixtures.

In June we met the New Haven Club at Gillette Quarry (Haddam Neck, Conn.) as a joint trip arranged by Raymond Ellis, trip chairman of the New Haven Club. After ambitious digging in the dumps, Ray Robert of the Connecticut Valley club found a very nice green tourmaline crystal, transparent but somewhat flawed and Albert Sebela brought home a large crystal of pink beryl with termination. The afternoon was spent at the Slocum Quarry in East Hampton, Conn., golden beryl was plentiful, some with bits of columbite with it.

On July 8, 14 cars of club members and guests, with pans of all sizes, shapes and backgrounds plus several sluice boxes, traveled

130 miles to the Five Corners, Vt., gold area. Two good nuggets were found by Albert Sebela and Larry Schoppee, each after five hours of hard work. A few flakes were found by others. All agreed that if such work were compulsory, no one would have appeared for this field trip.

The Peabody Museum at Yale Uuiversity, New Haven, Conn., provided variety in our calendar of field trips, as well as information and inspiration. The displays of local minerals were especially informative, and at least one private collection is now more accurately labeled as a result of this trip. The cut and polished specimens were the delight of the lapidaries present.

Summer field trips conclude with a visit to the rock cuts along the Massachusetts Turnpike construction near Blandford.

Mrs. Lawrence W. Schoppee
Secretary
9 Greenbrier Street
Springfield 8, Massachusetts

New Jersey Mineralogical Society, Inc.
Plainfield, N. J.

Installed at the annual dinner held on May 8th were the following officers: Joseph Groben, President; L. Fenn Vogt, Jr., 1st Vice-President; Oscar R. Smith, 2nd Vice-President; Mrs. L. C. Thompson, Secretary; Mrs. F. E. Reimers, Treasurer. Dr. Sanford S. Cole presented a slide-illustrated talk on his trip thru the Black Hills of South Dakota, highlighting the immense spodumene crystals to be found.

Our April Field Trip for honey-colored and brecciated jasper was to Vera Cruz, Pa. Arrowhead chippings were also found on this historic Indian Reservation. The Indians had traded the jasper up and down the Atlantic sea-board.

In May our Field Trip took us to the trap rock quarry in Bernardsville, N. J. where brown stilbite, other zeolites and calcite were collected. Then to Logansville, N. J., for clay concretions or "Mud-Puppies". No—the clay wasn't squishy—we had to dig in hard clay for the comically shaped concretions.

Our annual weekend Field Trip was held in June in the Portland-Middletown, Conn. area and among the many different minerals collected were perthite, blue apatite, tourmaline (schorl), unique mammillary banded feldspar, garnet, galena, milky quartz crystals, columbite and autunite. The famous Strickland Quarry was revisited and beryl (golden and caesium), spodumene, lepidolite were among the minerals collected.

The July Field Trip was to the historic Griggstown, N. J., Copper Mine—a micromounter's paradise. The location is in very beautiful and scenic surroundings. The minerals collected were chalcocite, malachite, cuprite, tourmaline, hornblende, epidote, magnetite, specular hematite and siderite.

The constant practice of observing mineral associations in the "Field" as stressed during our winter Sight-Identification Sessions is helping many of us further our knowledge of mineralogy and crystallography.

Mrs. Alex. F. Knoll
Publicity & Public Relations
532 Edgar Road
Westfield, N. J.

South

Georgia Mineral Society, Inc.
Organized 1935

Purpose:

The Georgia Mineral Society was organized to encourage an interest in collecting minerals, studying minerals by various methods, to encourage gemology, lapidary work, mining, mineral development, and the earth sciences.

You do not have to be a mineralogist to belong to the Georgia Mineral Society. We have in the organization members who are beginners as well as distinguished mineralogists and geologists. One of the quickest ways of learning about minerals is to associate with the members and to go on the field trips. Very young members should be accompanied by parents or guardians when they go on field trips. The principal object of the Society is to encourage the study of our many Georgia minerals.

Privileges:

The Society holds its monthly meetings in the auditorium of the Department of Geology at Emory University. Meetings begin at 8 P.M., and are usually held on the first Monday of the month. At these meetings, there is a program upon minerals or some allied subject. Generally, a well-known speaker addresses the group, and frequently kodachrome slides or movies are used. Also, monthly field trips are arranged to interesting mineral localities. On these trips, minerals are collected, and since many of the members are familiar with the identification of minerals and the recognition of minerals, these trips offer splendid opportunity for learning more about minerals; also, by meeting the group, there is opportunity for exchange of minerals. Annual dues for the Georgia Mineral Society are $2.00 and this is to cover the cost of mailing notices of meetings. Those who are underage can become junior members and their regular dues are $1.00 per year.

Those who are interested in the study of gems and lapidary work may also belong to the GEM CLUB, which also holds a monthly meeting at the Department of Geology at

Emory University. At these meetings members learn to identify gems, to appreciate their value, learn where they come from, and learn how to polish and cut gem materials. To belong to the Gem Club, one should pay 50c more per year as dues.

A quarterly News Letter, which reviews the activities of the Society during the preceding months, and contains numerous notes and articles upon Georgia minerals and where they are found, is sent to all members in good standing who are interested in receiving it; also, there are other items of interest to mineral collectors.

Visitors are always welcome at any of the meetings or field trips, but notices of meetings are sent only to those who belong to the Society.

For further information regarding the Society, call Mr. J. Roy Chapman, Secretary, 19 Hunter Street, S. W. Atlanta, Ga. Phone Walnut 7076.

Bexar Mineral Hobby Club

The Bexar Mineral Hobby Club, San Antonio, Texas, held their annual Barbeque, Sunday July 22nd, at the Roger Viets Picnic Grounds. A nice time was enjoyed by all.

Chefs Thompson & Malone served the most delicious barbeque, with the many nice dishes of good things to eat furnished by the ladies. Nice prizes. Good rockhound stories of various field trips. Seventy-five members and friends.

Mid-West

Cleveland Museum Gem Show

The Cleveland Museum of Natural History annual gem and mineral show and sale will be held in the Gallery of the Museum on December 7, 8 and 9.

The feature display this year will be a showing of fine opals. The heart of this display will be the famous Wade Gem Collection which belongs to the Museum. Many of the finest stones in the country are also being loaned to the Museum to make this one of the greatest showings of precious opal at one time. Other fine gems, amateur lapidary work, and mineral specimens will be exhibited.

The sales counters will offer enormous assortments of opal rough, from precious black to beginners' grades by the piece or by the parcel. A selection of fine mineral specimens and a good assortment of lapidary materials will be offered.

The Museum is located at 2717 Euclid Avenue, Cleveland, Ohio, just a few blocks from the center of downtown Cleveland. Show hours are 9 a.m. to 9 p.m. The public is invited—no admission charge.

William E. Kelley
Assistant Director

Firelands Geological Club, Norwalk, Ohio

The Firelands Geological Club, organized two years ago, held election of officers in June. New officers are: Wm. Timbs, President; Ed. Selfe, Vice-President; Louis Hornyak, R.D. 1, Wakeman, Sec.-Treas.; Mrs. Wm. Saladin, Jr., Press-reporter and Librarian. Meetings are held the first Monday at 8 p.m .at the homes of members. At the July meeting plans were made for several field trips and tentative plans made for several regular meetings. In August we were fortunate to have Carolyn Farnsworth at our meeting. Mrs. Farnsworth is with the Ohio State Geological Survey and is making a survey of mineral localities in our state. Our field trips included a hike to the Indian Mounds near Norwalk and a fossil hunt at Silica where a few trilobites were found. Our club has been invited to the Veitzens of Elyria, the 9th of Sept. for a tour of their Indian Museum, Log Cabin, etc. (We enjoyed our visit with Veitzens when our club held its Sept. meeting there last year.) Our regular meeting for Sept. is being planned jointly with the Hancock Geology Society, Findlay, Ohio.

Mrs. Clarence Carey
Collins, Ohio.

Des Moines Lapidary Society

The big Rock & Mineral Convention held at St. Paul, Minn., in mid-July was certainly a big success as far as this Community was concerned. Many of us had never had the opportunity to attend such a Convention before. It was beautiful! The amazing and very beautiful dinner service from California—The museum piece "Man-O-War" from Wisconsin—Tree of Spheres—and our own beautiful Map of the United States—the wonderful gem stones and beautiful jewelry—the lovely slabs of rock that you could buy! We all had such a wonderful time both looking and buying! Our Des Moines Lapidary Society was well represented—about half of our membership was there—from our President, Martin McIntire and his lovely wife, Georgeanna thru the Official Family down to and including me—press correspondent. Our most beautiful display window was quite popular and received many admiring comments. We did not receive a citation but we hope for better luck next time.

Mrs. Roy J. Bennett
924 Loomis Ave.
Des Moines 15, Iowa

National Gem & Mineral Show
St. Paul, Minn.—July 12-15, 1956

We have just ended the National Gem and Mineral Show for 1956 and we have gained the distinction of having the largest, finest and best managed gem and mineral show ever held in the United States. We have worked hard to gain this honor this year and it is our desire that each year in the future the National Show will grow and grow all over the nation. I have enjoyed having the privilege of being publicity and program chairman for this show and even though it took a lot of work, there is tremendous satisfaction in seeing everything turn out just as planned.

A preliminary check indicates that our attendance was approxiamtely forty thousand with a possibility of being slightly higher when all the figures are tabulated. Exhibitors, dealers and visitors were all pleased with the show and stated this was the finest show they had ever attended. We have a large club of 340 members and all of the members cooperated fully to make this show a success. We had perfect weather during the show and that helped our attendance too.

Special thanks must be given for all of those exhibitors who travelled far to bring fine exhibits to this show to vie for trophies and awards. Of 250 exhibitors only 59 of them were from the Minnesota Mineral Club. There were 14 club exhibits; the University of Minnesota exhibited a large display of meteorites: N. W. Ayer & Son, Inc. of New York City exhibited replicas of all the famous diaminds; Hudson's Jewelers' of Minneapolis displayed a rare and naturally colored collection of diamonds and a collection of diamonds colored by radiation in a cycletron; the Linde Air Products Company exhibited the Coronation necklace which contained one star ruby of 82.92 carats and two star rubies of 15 carats each and 86 diamonds; a fine iron mining display was presented by the United States Steel Corporation; the Smithsonian Institute exhibited fine and rare crystal specimens; one of the finest collections of crystal models in the country; the Walker Art Center and the Minneapolis Institute of Arts fine Jade collections; two of the finest Montana agate collections in the country; exquisite gems of all kinds; several fine sphere collections; thousands of cabochons; thousands of polished specimens; fine arrowheads; many fine mineral collections of rare beauty; exhibits of perfect fossil specimens and rough gems and gem materials of all kinds.

We participated in four television interviews and TV cameramen took movies the first day and showed them on TV newscasts that night and the next morning.

LeRoy V. Peterson
Program and Publicity Chairman
2626 Riverside Ave., S.
Minneapolis 6, Minn.

THE PRESIDENT'S LETTER
American Federation of Mineralogical Societies

First I should like to thank the Officers of the Midwest Federation for a wonderful show at St. Paul, Minn., July 13-19, 1956. The displays were tops and the whole show moved forward with a well ordered program.

I also want to thank Mr. Thomas, the Convention Chairman, for a most excellent job.

Our next Convention will be held in Denver, Colorado, and I am sure the Rocky Mountain Federation will maintain the high standard that has been set.

Each year we seem to get bigger and better and this is only possible by the high quality of the personnel that make up our membership and the men and women who have guided our course.

At a very early date I shall call a meeting of the officers of the A.F.M.S. to elect the Chairmen of the different divisions of work provided by the Constitution, namely, Mineralogy, Geology, Paleontology, Gemology, Lapidary, and Publishers and Dealers .

I should also like to recommend a return to the custom of holding an annual Essay Contest for our Junior Members with a suitable subject and prizes.

We must be sure that our Annual Convention does not lack an Educational Program at the top level. An organization such as ours must constantly be on the alert to prevent loss of purpose to the desire to build up the treasury.

It was with this in mind that the Constitution was written with its powers separated and diffused. Long terms of office were frowned upon and the Presidency was restricted to one term.

Our organization was set up according to our Constitution "to promote interest and education in the various Earth Sciences". Therefore, let us be diligent in the exercise of our duties.

Harry L. Woodruff, President

Rocky Mountain Federation of Mineralogical Societies

The 13th Annual Convention of the Rocky Mountain Federation of Mineralogical Societies was held in Rapid City, S.D., June 14-17, 1956 —host was the Black Hills Mineral Society.

Officers of the Federation were W. L. Roberts, President; Ralph Henry, Vice President; Miss Ermald Cunningham, Secretary-Treasurer.

At the business meeting of the Federation, Dr. Olivia McHugh moved that the executive committee be instructed to investigate the problem of creating an official publication for the Federation. Motion was seconded by James Hurlbut and carried.

James Hurlbut, on behalf of the Colorado Mineralogical Society, extended an invitation to the Federation to hold the 1957 Annual Convention in Denver, Colorado. Donald S. Barnes

moved that the invitation be accepted. Motion was seconded by Bryce A. Helfrich and carried.

The following officers were elected for 1956-57.

President: James F. Hurlbut, 2240 South Adams, Denver 10, Colo. Vice President: Charles Horvath, 1332 Lafayette St., Denver 18, Colo. Secretary-Treasurer: Miss Muriel Colburn, 2821 S. Jackson St., Denver 10, Colo.

California

San Francisco Gem & Mineral Society, Inc.

October 20-21 will see the Third Annual Fair of the San Francisco Gem and Mineral Society, in the Scottish Rite Hall, in San Francisco, Calif.

Special displays will include a demonstration, by MR. SHEU TSE KOO, of cutting and polishing by the ancient Chinese method. There will be demonstrations of faceting and hand cutting and polishing using inexpensive "home-made" tools.

The ancient Italian art of Intarsia, will be displayed, step by step, as well as completed work of our Intarsia class. Other special exhibits will include unusual crystals, flats, the work of our Junior Museum and our own Field Trip Committee.

Our members feel they have improved the quality, variety and interest of their collections and their work and will show some fine cases. Their cooperative venture has produced a "ROCK HOUND RANCHO", a barn-yard scene in stones, that we are proud to feature.

"ROCKHOUND ROUND-UP"

In this 21st year of the Sacramento Mineral Society, it is close to the time for another magnificent show.

While it is one of the last Gem and Mineral Shows of the year in the California Federation area, Sacramento attracts visitors and dealers from great distances.

The collections and skills of members of the Sacramento Mineral Society are well known to many in the West. President Lillian Coleman with her Jade and Sphere collections and Past President Elmer Lester with his Quartz Family Minerals are experts in their fields.

Various members will display outstanding exhibits of fossils, general minerals and lapidary art. Every phase of the hobby will be shown.

In addition to the displays of the adult members, emphasis is to be given in the value of training Junior Members. Junior Supervisor, Leigh Readdy, is planning the largest Junior Division exhibit that we have ever had. What can be a better way to combat juvenile delinquency?

This year, under the capable guidance of Past Presidents Martin Colony, Elmer Lester and their committee, the Sacramento Gem and Mineral Show will feature a "Rockhound Round-up" of outstanding competitive displays, your favorite dealers, good food at the Snack Bar, door prizes and an opportunity to greet old friends.

It will be held on November 3rd.—10:00 A.M. to 10:00 P.M. and November 4th.—10:00 A.M. to 9:00 P.M. at Turn Verein Hall, 3349 Jay St., Sacramento, California. Everyone welcome! Admission Free.

George F. Winslow
Publicity Chairman
1900 - 43rd St.,
Sacramento 19, Calif.

S. W. States May be Missing Many Mineral Possibilities

San Antonio, Texas: A Southwest Research Institute scientist warns that southwestern states may be missing many mineral possibilities because of outmoded information and inadequate financing of state geological surveys.

Dr. William B. Mather, author of the mineral section of the Southwest Resources Handbook, which will be published by the not for profit institution later this year, says that mineral deposits which were previously ignored have now become economically important. He urges communities and areas in the southwestern states to launch a program of charting possible deposits of these minerals.

He explained that many hitherto ignored deposits will be revealed in the Southwest Resources Handbook. However, he said full exploitation of the mineral resources of the Southwest depends upon a program of systematic exploration.

Mather said many industries could be developed once these deposits are located and evaluated. As examples of the neglected minerals, he cited the case of the clays and sands which have just begun to be appreciated. These have led to a growing ceramic industry and their full value to the economy is still to be realized, he said. As another example, he pointed out that lignites (low-grade coal) will command an increasingly important place in the future economy of the area.

Mather showed that in 1952 a surprisingly small amount of money was spent by state agencies to chart these mineral deposits. For example, Texas, which is the largest mineral producing state in the country (more than 3.3 billion dollars in 1952), only spent 3.8 cents per thousand dollars of minerals produced. The small state of Maryland spent over 120 times this amount and Oregon spent nearly 100 times as much.

Mather suggested that if the states themselves do not act upon the problem, local communities should conduct their own mineral audits so they can benefit from the exploitation of these now dormant resources.

NOVICE COLUMN

In the Sept.-Oct. 1953 R&M, Gordon ViGario, 2231 Pine St., Bakerfield, Calif. suggested that a Novice Column be opened for rank beginners in mineral collecting. These amateurs, who do not know one mineral from another, may submit their names to the Novice Column.

It is our hope that collectors having duplicates may donate a few specimens to one or more novices who are expected to acknowledge receipt of specimens received and to reimburse each sender for postage paid on the packages. Please print or write plainly the names and localities of all specimens sent novices, and if 2 or more minerals appear on the same specimen, identify each. Remember the novices do not know one mineral from another, so please be as helpful as you can.

The following is the 18th list of novice collectors.

Mrs. George Way, 16 E. St. Charles, Phoenix, Arizona

Bob Sardello, 633 Park Street , Trinidad, Colo.

E. Engman, Box 87, Nokomis, Fla.

Glenridge Junior High School Science Club,
Glenridge Way, Winter Park, Fla.

J. J. Groves, Marietta Rd., Canton, Ga.

Martin B. Sacks, R.R. 2, Claypool, Ind.

Mrs. Wm. J. Quinn, Donahue, Iowa

Jack L. Maddox, 451 9th St., Hoisington, Kansas

Mrs. Jessie Mann, Emery Hills, Maine

Tommy Wright, 7415 Tilden St., Landover Hills, Md.

Robert Ashton, 480 Main St., Oxford, Mass.

Daniel Prusaitis, 50 Sawtell Ave., Brockton 39, Mass.

Mr. & Mrs. Ernest Morton, 1541 Indiana Ave., Flint 6, Mich.

James W. Peterson, (15 yrs.), 2309 Portland Ave., Minneapolis 4, Minn.

The Rev. & Mrs. Forrest E. Vaughan, 114 Atlantic Ave., Ocean City, N. J.

Barbara Giorlando, (13 yrs.), 16 Sunset Ave., Newark, N. J.

Jinny Pat. Fletcher, (14 yrs.), 1509 Princeton S. E. Albuquerque, N. Mex.

Otto H. Sues, 160 Wadsworth Ave., New York 33, N. Y.

Robert H. Reitmeier, (14 yrs.), 85 Halcyon Terrace, New Rochelle, N. Y.

Mark Sullivan, (9 yrs.), 3380 Belvoir Blvd. Cleveland 22, Ohio

Robert Witt, (9 yrs.), 624 Clymer Lane, Ridley Park, Pa.

Robert Naylor, (10 yrs.), 1315 Burmont Rd., Drexel Hill, Pa.

Charles Speltz, 1917 Foster Ave., Memphis 14, Tenn.

Earle Medlin, (16 yrs.), 1301 N. Oak, Mineral Wells, Texas

Howard Patterson, Jr., (15 yrs.), 7215 Evergreen Rd., Fort Worth 11, Tex.

Miriam Lane, (12 yrs.), 410 Jackson St., Falls Church, Va.

Beverly Anderson, (9 yrs.), 127 O'Canoe Pl., Hampton, Va.

Pete Lillegren, (14 yrs.), 348 Kensington Dr., Madison 4, Wisc.

Mrs. Emily Dombrowski, 3219 N. Bremen St., Milwaukee 12, Wisc.

John Maraldo, (14 yrs.), 1856 Converse Ave., Cheyenne, Wyo.

VISITING ROCKHOUNDS WELCOME

The following subscribers would be delighted to have rockhounds call on them when passing through their cities. If any one else wants his name added to the list, just let us know.

R. A. Richards, Box 44, Morristown, Ariz.

Mrs. John A. Talbot, 1221 W. 6th Ave., Pine Bluff, Ark.

Rose Wey, 12525 S. Rose Ave., Downey, Calif.

Meade B. Norman, 1524 Mitchell Ave., Tallahassee, Fla.

Bert C. Cole, 1424 - 11th St., Lewiston, Idaho.

Steve Sturm, 521 Roosevelt Ave., Kewanee, Ill.

F. L. Fleener, 1415 Rosmer St., Joliet, Ill.

Leroy H. Grossman, 211 N. Park Ave., Batesville, Ind.

Edward Rushton, 730 Bexley Road, West Lafayette, Ind.

Rex Lucas, Sumner, Iowa.

David B. Sleeper, Box 4, Sabuttus, Me.

Leroy Leisure, 500 Townsend Ave., Baltimore 25, Md.

Carl F. Lemin, 624 E. Division St., Ishpeming, Mich.

Brentwood Lapidary & Gem Shop, 8913 White Ave., St. Louis 17, Mo. Phone WOodland 2-4067.

Edward T. Barone, 48 Elmwood Rd., Verona, N. J.

Clark P. McLean, Brass Castle Road, RD #1, Belvidere, N. J.

Don Alfredo, 322 Linda Vista, Las Cruces, N. Mex.

Vernon Haskins, East Durham, N. Y.

Harold J. Lienemann, 62 N. Gordon St., Gouverneur, N. Y.

Robert Ransom, 906 Woodland Ave., Schenectady, N. Y.

William N. Secrist. 193 Lehigh, Rochester 19, N. Y. Phone GEnesee 8216M

Donald V. Dalton, Box 68, Chimney Rock, N. C.

Dept. of Physical Science, Belmont Abbey College, Belmont, N. C.

Fred J. Teague, 1612 3rd Ave., S. W., Hickory, N. C.

D. R. Holder, 4485 Indiana Ave., Winston-Salem, N. C.

Mr. & Mrs. Clarence Carey, Collins, Ohio

Bill Berke, 1446 Earlham Dr., Dayton 6, Ohio.

Albert Laws Kidwell, 1410 Terrace Drive Tulsa, Okla.

Mrs. Ammon Schwartzbach, 2239 Logan St., Harrisburg, Pa.

Donald H. Leeds, 2025 Westfield Terrace, Bethlehem, Pa.

Leighton Donley, Box 101, Miners Village, Cornwall, Pa.

H. C. Van Tassel, 8009 Westmoreland Ave. Pittsburgh 18, Pa.

Adolph Hillstead, 1309 4th St., Brookings, S. D.

M. S. Ortman, Ortman Museum, 6 mi. N. of Marion, S.D.

Mrs. Edwin P. Olson, Beresford, S. D.

Visiting Rockhounds Welcome—Continued

P. M. Plimmer, Box 701, Alpine, Texas.

Howard V. Hamilton, 1340 Crandall Ave., Salt Lake City 6, Utah.

James M. Fagan
Wallace, Va.

G. W. Weber, 1320 Portland Ave,. Walla Walla, Wash.

The Rockhound Special—A Bus Museum

One of our good subscribers, Gene Schenet of San Clemente, Calif., is touring California in a Bus Museum, known as "The Rockhound Special". A recent letter from him reads:

"We have over 1000 specimens of crystals, fossils, minerals and semi-precious stones in glass top cases and over 200 Indian Artifacts, arrows, pottery etc. These start back of the driver's seat and go to the back. In the rear of the bus is a 2-section Mineralight cabinet with many colorful specimens. On around to the left are specimens of Radio-Active minerals and some gold and silver. After you pass the middle door and under the counter which raises up, there is an electric stove, with an exhaust fan above which carries out the fumes. A 2500 watt Electric generator supplies lights and power when needed. Next under the counter is an ice box and on right side on top of the counter is a sink.

"When we travel far we take a folding bed and I tell people I'll not be wealth y in money, but a lot of contentment will su:round me and my wife, Eunice.

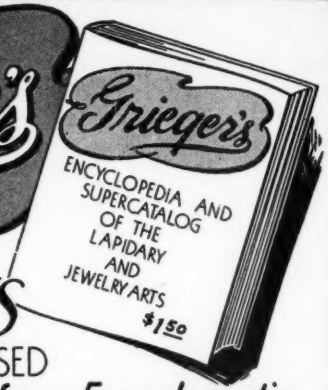
"You will notice the Detectron Geiger Counters, Mineralights, Metal locator and complete Highland Park Cabochon Unit. Then the wonderful Lapidabrade Co. of Jenkintown, Pa., has sent 4 wheels to display. Anyone or any company wanting to place a display, please write.

"There is no charge for viewing this display because goodwill to our fellowman is our purpose. We are looking for a big company sponsor for a country wide tour. We feel that if we can help to start some confused people and children (that just don't know what to do) and make them happy, we in our small way have helped the world in general. We want to welcome people at 114 Placentia (mail address P.O. Box 1226) San Clemente, Calif. on Sundays or if they wish to come Saturday, to call Hyacinth 2-3615 or write."

"Rock Hound Special"—bus museum (operated by Gene Schenet, San Clemente, Calif.)

Interior view of the "Rock Hound Special" bus museum.

Grieger's



EXCITING *News*

ON JULY 15TH WE RELEASED

The New 1956 Edition of our Encyclopedia and Super Catalog of the Lapidary & Jewelry Arts

Over **8 TONS OF PAPER** were used to print the first 10,000 copies of this book. A LIMITED NUMBER OF THESE ENCYCLOPEDIAS ARE AVAILABLE. **WHILE THEY LAST**

YOU MAY PURCHASE THESE AT:

$ 1.50 for paper bound copies.
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ONCE THIS FIRST EDITION IS SOLD THE **PRICE WILL ADVANCE TO AT LEAST**
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Over **5000 copies** were **SOLD** PRIOR TO July 15th, 1956.

GRIEGER'S ENCYCLOPEDIA contains **224 pages 8½" x 11"** in size. **EIGHT** different **COLORS** of ink were used to print certain sections of this book.

THIS IS THE LARGEST and **THE FINEST CATALOG EVER TO BE PUBLISHED.**

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GEM CUTTING MACHINERY and **SUPPLIES • JEWELRY MAKING TOOLS** and **SUPPLIES • BLANK MOUNTINGS • JEWELRY PARTS • JEWELRY METALS • BOOKS • ULTRA VIOLET LAMPS • TUMBLE POLISHED GEMS • PREFORMS • CUT GEMS • ROUGH GEM STOCK** and **INSTRUCTIVE ARTICLES.**

YOU CANNOT BUY A COPY OF "GRIEGER'S ENCYCLOPEDIA AND SUPERCATALOG OF THE LAPIDARY AND JEWELRY ARTS" for 1948 or 1950 at 5 or ten times the original cost of $1.00. Most of the people who still have these books will not sell them at any price.

Here are some actual letters we received from customers who purchased our 1948 Encyclopedia which was 164 pages.

"It is the finest and by far the most outstanding catalog of its kind that I have ever seen, and I run across many catalogs from firms all over the country."

Thomas A. Warren—Los Angeles

"Far better than anything else ever. Couldn't put it down until I'd gone thru it cover to cover. Won't be good for anything else until I've read it thoroughly. My order will follow."

Lester Burmeister—Wisconsin

"I do not see how you expect to sell books when you put so much technical information in your catalogs on how to pursue one's hobbies."

C. W. Stimson—Seattle, Wash.

GRIEGER'S, Inc.

1633 E. Walnut St.
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Here is what some purchasers say about

GRIEGER'S ENCYCLOPEDIA AND SUPER-CATALOG OF THE LAPIDARY AND JEWELRY ARTS

"Please send me two copies of your 1956 ENCYCLOPEDIA. Wouldn't swap my 1950 copy for a farm out West."
Stanley O. Goding,
Springfield, Vermont

"The new ENCYCLOPEDIA and catalog is all that you claim it is—it is very fine. We anxiously await the companion wholesale list."
D'Anne Jewelry Originals,
Albuquerque, New Mexico

"Just received my copy of your 1956 ENCYCLOPEDIA. I am more than happy with it."
D. P. Mueller, Menlo Park, Calif.

"I do not believe that there is anything printed in mineral literature that is nearly as complete or as informative as your SUPER-CATALOGS have been, and I know that a great many of my friends use it regularly as a ready reference where they may find almost anything that they may want to know in regard to the mineral and lapidary trade and hobby."
Ben Hur Wilson, Chicago, Illinois

"Congratulations. The SUPER-CATALOG is more than 'SUPER.' You folks are doing more to help us who are combination 'rock-hound, lapidarists and amateur jewelers,' than any firm elsewhere in these United States. I hope you grow and grow and grow, until you have to build a skyscraper to hold your stock and business. Congratulations."
One of your newer customers,
H. G. Wilson, Jr., San Diego, Calif.

"This book is more than just a Catalog; it is a source of much valuable information for amateurs, craftsmen, dealers and professionals."
Dr. J. Daniel Willems
Earth Science Publishing Company
Chicago, Illinois

"I want to thank you for your prompt adjustment on the saw blade and damaged mounting. It is really a pleasure to do business with a firm which is so cooperative and accommodating. Again, I thank you."
Ted H. Lattin
Pagosa Springs, Colorado

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MAIL ADDRESS: P. O. Box 4185, CATALINA STATION, PASADENA, CALIF.

WITH OUR ADVERTISERS

Conducted by James N. Bourne
% Rocks and Minerals, Box 29
Peekskill, N. Y.
Advertisers are cordially invited to submit News Items to this Department.

From Grieger's, Inc., 1633 East Walnut Street, Pasadena 4, Calif., we received a complimentary copy of their new 25th SILVER ANNIVERSARY EDITION OF GRIEGER'S ENCYCLOPEDIA AND SUPER-CATALOG OF THE LAPIDARY AND JEWELRY ARTS.

Comment from Greiger's, Inc., relative to above encyclopedia and super-catalog reads as follows:

"In our opinion it is the finest catalog that has ever been published in this field. It is more than just a catalog. It is a source of much valuable information that cannot be obtained in any other book. The mere fact that so many different jewelry parts are listed in one place makes the book of great value to any craftsman.

"For the various dealers in this field, our encyclopedia lists realistic retail prices for many items that have been sold at low margins in the past. Sterling Silver sheet and wire is the most outstanding example of selling a basic supply item at low cost as a loss leader to attract business. Our retail silver *prices* are such that a dealer can double his money on our small lots and still make a good profit in our larger quantities. We hope that the dealer will appreciate the importance of our retail pricing policies."

Note: We say with all sincerety that the above Silver Anniversary Edition of Grieger's Encyclopedia and Super-Catalog of the Lapidary and Jewelry Arts is one of the best in its field and no jeweler or dealer should be without it.

We therefore extend our congratulations to GRIEGER'S, INC. for this outstanding contribution to the Lapidary and Jewelry field.

We received a nice postcard from Wyoming from John S. Albanese, P.O. Box 221, Union, N. J., who is a steady advertiser with R & M.

"Nothing but shale and marine sediments in eastern Wyoming," writes John.

Joseph P. Stachura, 8 Upton St., Milbury, Mass., whom we mentioned in our May-June issue of R & M as a soon-to-be-advertiser, has now written us that he has acquired the necessary supplies and is ready to accept orders from our readers. Mr. Stachura has this to say re: to above statement:

"We are dealers for Highland Park line of Lapidary Equipment. Your inquiries are invited, and descriptive literature will be sent on request.

"Statement of policy—100% satisfaction or your money back. All goods returnable within ten days of receipt. All gems, jewelry, and rough gem materials are subject to 10% tax. Tax and postage is not included in the listed prices due to market fluctuations. Prices are subject to change. Send for our new price list.

"Have cut stones and a large variety of mineral specimens for sale. Also have a slabbing service for the slicing of your materials."

Note: Mr. Stachura is a proud father of a boy born recently and we like to add our congratulations to the new parents and feel pleased to have Mr. Stachura join us as a display advertiser with this issue.

Enroll today in the Guffey Institute and Gem Lapidary courses of Gem Cutting or Jewelry making at 3001-3003 M. Street, N. W., Washington, D. C.

"Only takes a month—only costs $25. —you come once a week for only 2 hours. In the A.M. (10 to 12) or in the P.M. (2 to 4). Pick the day you want to come—you will learn how to saw, grind, shape and polish precious gems—everything you need is furnished to you—all classes are scheduled—if you can't come—give a lesson to a friend!" —is their advice.

We have just received a very nice letter from Gilbert W. Withers, 1405 W. Paces Ferry Road, N.W., Atlanta 5, Ga., wholesalers of a Gem & Mineral supply house and distributors of chatham emeralds. Mr. Withers' letter also includes their latest price list bulletin (Bulletin No. 8) with the following announcement.

"We wish to announce the arrival of what is probably one of the largest and truly representative shipments of tiger eye from the crocidolite asbestos mines of South Africa. Much of the choice material here required nearly three years to accumulate in quantity sufficiently large to ship. Fine tiger eye has never been cheap and probably never will be.

"Included we have 10,000 lbs. of yellow and brown tiger eye, 5/8" to 1¼" thick in 5 lb. lots at 45c per lb. Also finer grade tiger eye, white color at $3.25 lb. in 5 lb. lots, and many others too numerous to mention in this space."

"Send for bulletin No. 8 for more information on above and get some really fine material. You will not be disappointed.

"We are also introducing green amethyst. There has been a discovery in Brazil of a new source of amethyst. When treated by heat this amethyst changes, for the first time, to a green color. It is available to jewelers now."

From W. S. Shirey, 7927¼ Santa Monica Blvd., Hollywood 46, Calif., comes the following announcement: "Watch for opening date of our retail store for NUGGET GEMS. Mail orders filled.

"All kinds of NUGGET GEMS in irregular shapes and sizes for sale. I invite comparison to any baroques or tumbled gem stones."

Mr. Shirey, "The Nugget Man," has been advertising with ROCKS AND MINERALS for quite some time and we wish him success in the opening of his Retail Store at 7931 Santa Monica Blvd., Hollywood 46, Calif. Watch for his opening date and if chance prevails, drop in and see him, he'll be glad to see you.

Hugh A. Ford, 110 Wall St., New York 5, N. Y., who has been occupying the 2nd Cover of ROCKS AND MINERALS for the past few years comes out with his 69th List of Minerals with this issue. We've had many fine comments as to the very reasonable prices offered by Hugh A. Ford for the many good quality specimens offered each issue. 'Satisfied customers' are a trademark with Mr. Ford and we are proud to have him with us.

Take a look at the 2nd Cover with each issue and take note at the many fine 'buys' that can be had with Hugh A. Ford.

From Ward's Natural Science Establishment, Inc., Box 24, Beechwood Sta., Rochester 9, N. Y., comes the following:

For the best results in starting and maintaining a satisfying interest in your hobby, you need the following:

"MY HOBBY IS COLLECTING ROCKS AND MINERALS by David E. Jensen. A splendid How to Do it Book for the beginner; tells how to recognize minerals; How to classify minerals and rocks. Where to find minerals. Collecting equipment needed, etc. for $2.95.

"Beginner's complete mineral and rock collection MC 107. Designed to acquaint the beginning collector with the more common minerals and rocks. It contains 50 minerals and 20 rocks accurately identified, about 1 x 1" in size. An ideal reference collection to use in connection with the above book."—$5.50.

"Send for our price list: Catalog FM

8—A listing of mineral specimens, popular mineral and fossil collection, supplies for the collector . . . Free."

We are also in recepit of Scott J. William's latest Mineral Collector List issued in September featuring Sengierite from Cole Shaft, Bisbee, Cochise Co., Arizona. You can contact Mr. Williams at 2346 S. Scottsdale Road, Scottsdale, Arizona for his latest price list issued monthly.

From Scott J. Williams we received the following note on Sengierite:

"Sengierite was first noticed and described as a new mineral in 1949. All specimens are priced according to the amount of the sengierite mineral present, and are highly radioactive. Some good micromounts are also available. Inquire as to size and price before ordering."

The following item was received from Lapidabrade, Inc., 400 Leedom St., Jenkintown, Pa.:

"We would like to introduce Dick Miller, our new Vice President and General Manager, whose long experience with the precious metals will prove a welcome addition to our Jewelry manufacturing and repair dept. Since moving to our new location at Jenkintown we have expanded our lines and now warehouse all precious and semi-precious rough cutting materials from India. We are the exclusive distributors for Ramish International Trading Co. of Bombay, India. Cutters now can buy these interesting minerals without the risk of sending abroad, bother with foreign exchange, customs, duties etc. And we offer these at Indian prices."

Rocks as Premiums offered by Wheaties

Like the proverbial early bird, the American youngster is receiving his education with breakfast these days.

In this era when fancy gadgets keep popping out of breakfast cereal packages as an extra for the customer, General Mills again is giving something away that teaches as well as entertains.

Hobby stimulators, interest creators to be exact.

There were the miniature auto license plates. Then along came confederate money premiums. Foreign coins and stamps were offered in the cereal package.

Now there is something new in the educational theme—the offer of rare rocks with packages of Wheaties which gives the youth of America the chance to learn about the stone formations of our country and also join one of the largest hobbies in the world.

There are six million registered rock collectors in the United States. Many more millions collect rocks and stones, but do not belong to any organized group. As a hobby it is crowding photography and stamp collecting for the top position in the nation.

Through Wheaties' rare rock offer, the membership of rock collectors should jump immeasurably.

At the recent National Gem and Mineral Show in St. Paul, Minn., Wheaties displayed samples of the rocks it is giving away and the entire project was lauded by the mineralogical organizations.

"This offer by Wheaties gives the youth of America an excellent opportunity to become interested in a fascinating and worthwhile hobby," said Harry C. Woodruff, president of the American Federation of Mineralogical Societies. "It is also the greatest aid we have ever had in developing potential 'rock hounds' and 'pebble pups' for our organization. I feel that General Mills should be congratulated on this project."

Members of the two million rock-collecting workshops which have been established over the nation feel that the hobby has more far-sighted significance than the usual run of hobbies.

First it is educational, second the federal government encourages the search for rare minerals and third it is an excellent craft for occupational therapy and for youth programs designed to combat juvenile delinquency.

General Mills and Wheaties feel that any co-operation along this line will be for the good of the country as a whole.

The premium offer not only gives the young "pebble pup" a start on his collection, but also gives him valuable information concerning the stones. Such informative material is printed on the plastic envelope in which each rock is sealed before it is placed in every package of the breakfast food.

A special mail-in offer brings the collector the full set of 10 rocks, plus a special mounting board which gives the names of the rocks,

IT'S CLOSE—Young Sammy Roberts of Minneapolis carefully studies the rare rock he received in his box of Wheaties to see if it is similar to any of the diamonds in the $15,000 exhibit on display at the National Gem and Mineral Show held recently

the source, the degree of hardness and how it was formed or what it has been used for through the years.

The rocks have been collected from widespread areas of western United States and Mexico. The collection includes petrified wood from Arizona, quartz in colors from rose to clear from Mexico, lepidolite from California, tan brown jasper from California, Death Valley onyx from California, chrysocolla from Arizona, Mojave Desert agate, orthoclase feldspar from California, obsidian from Nevada and opalized wood from Idaho.

Publications Recently Received

Nininger—Minerals for Atomic Energy. (2nd Edition).

By Robert D. Nininger, Assistant Director for Exploration, Division of Raw Materials, U.S. Atomic Energy Commission. 399 pps., illustrated (15 in color), 6¼ x 9¼. Published by D. Van Nostrand Co., Inc., 120 Alexander St., Princeton, N. J. $8.00

Minerals for Atomic Energy is a guide to exploration for uranium, thorium, and beryllium.

Proven by international usage, and by six large printings of the first edition, this practical prospector's guide has now been carefully revised and brought completely up to date. Additional illustrative material brings the total of descriptive color plates up to fifteen.

It covers the geology of these minerals; their presently known and probable incidence in this country and abroad; their identification in nature; the tools, equipment and methods to use in exploration and the evaluation of the results of successful searching.

Part One describes the minerals and mineral deposits that are the sources and potential sources of uranium, thorium and beryllium, with full attention to physical properties and geologic characteristics, to-

gether with a description of the identifying marks of likely deposits. Part Two is a comprehensive survey of the various areas of the world with respect to their favorability for new deposits of atomic energy minerals. Part Three covers prospecting equipment and techniques, the use of Geiger and scintillation counters, evaluation of deposits, and the countless details of prices, markets and governmental controls the prospector must know. Extensive appendices include mineral identification tables, classifications of ore deposits, testing and analysis procedures, lists of equipment supplies and analysis centers, the laws and regulations controlling prospecting here and in important areas abroad, and other pertinent information.

Deposits of atomic energy minerals, once thought rare and isolated, are being found with increasing frequency in unexpected areas. The growth of atomic science for peace-time purposes, depending on continuing supplies of raw materials, promises to be one of the expanding miracles of this century. It is within the capabilities of any informed prospector to aid in the search, and to help his fellow man as well as himself in doing so.

Simply and clearly written by the Assistant Director for Exploration of the Atomic Energy Commission, "Minerals for Atomic Energy" not only meets the requirements of the inexperienced prospector, but offers authoritative information in a highly specialized field to the professional prospector or geologist.

Buerger—Elementary Crystallography.
By M. J. Buerger, Professor of Mineralogy and Crystallography, Massachusetts Institute of Technology. 528 pps., with many tables and figures, 6½ x 9. Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y. $8.75

This is the first single book to present a rational introduction to the vast and interesting science of crystallography. "Elementary Crystallography" introduces the student to the science by offering much more than a collection of facts and conclusions. It provides a penetrating study of the symmetry properties of crystals, which are basic to all other phases of crystallography. Thus it gives the student the firm foundation in symmetry theory that he needs for any further intelligent study of crystals or of the parts of other sciences which deal with crystals.

The fundamental ideas concerning crystal symmetry are a fascinating kind of solid geometry that can easily be understood by the reader with a background of high school mathematics. The author develops this philosophy in easy steps that anyone can readily grasp.

Edmunds—Geology and Ourselves.
By F. H. Edmunds, 256 pp., 12 pls., 6½ x 9¼. Published by Philosophical Library, Inc., 15 E. 40th St., New York 16, N.Y. $10.

For more than 30 years a member of the staff of the Geological Survey of Great Britain, Mr. F. H. Edmunds has had a wide and varied experience of the economic applications of geology. His opinion on geological matters has been sought by engineers, architects, surveyors, builders, stonemasons, farmers, water boards, local authorities, and —in both war and peace—by the military services. He has written this book to show the importance of geology in our everyday lives.

A special geological investigation is today an essential prelude to all mining for coal or metallic ores, to boring for water, oil or natural gas, to driving a tunnel or erecting a heavy building. After a preliminary outline of the broad principles of geology, Mr. Edmunds explains how the geologist can deduce the subterranean contents and structure of the land from observations made on the ground surface, or from a study of the geological map.

Engineering projects, such as tunnels, are dealt with in a broad and comprehensive way, and the author shows how the geologist helps the engineer to anticipate and avoid dangers and calamities of the sort that sometimes overtook their less scientific forerunners. The descriptions of the methods of drilling deep holes in the ground answer many of the questions which commonly puzzle the layman.

The comparatively new studies of geophysics, geochemistry and soil-mechanics are introduced, and the special meaning given to the word "soil" by engineers is defined. An account of the relation between rocks, soil and agriculture covers the preparation of soil maps, and the place of geological data in industrial planning is brought out.

This book is clearly written and is illustrated with numerous diagrams and photographs.

Collison—Guide for beginning fossil hunters.
By Charles W. Collinson, 36 pages, illustrated 6 x 9. Published by Illinois State Geological Survey, Urbana, Ill. 25c

An intensely interesting illustrated guide for the amateur fossil collector.

Vermont Publication

The Geology of the Lyndonville Area, Vt.
By John G. Dennis. 98 pps., 15 figs. 23 plates. Issued July 1956 as Bull. #8 by the Vermont Development Commission, Montpelier, Vt.

Rockhound Buyers Guide—4th Edition
(an encyclopedia for the rock hobbyist)

Edited and compiled by Lelande Quick, Editor and Publisher of the Lapidary Journal, 200 pages, illustrated, 6½ x 9¾. Published by the Lapidary Journal, Del Mar, Calif. $2.

This guide contains so many features of intense interest to rockhounds, that we recommend it highly to all our readers. Among its many desirable features are such articles as: the Wyoming Gem Country; where to go in Arizona; Gemstone Rambles in the East; Tri-State Gem Trails; Gems of Idaho; Easy ways to color agate; List of motels and trailer parks which emphasize rockhounding interests; who publishes it—a list of magazines and books catering to all branches of the rock hobby; list of American gem and mineral clubs (with time and place of meeting); rockhound dealer list—a list of almost every dealer having anything of interest to sell to rockhounds; state list of dealers—dealers in each state listed alphabetically by town and name.

In addition to all the above features, the Guide is heavily loaded with dealers ads offering choice items of special interest to rockhounds.

If you are a rockhound, you need this Guide; if you do not need this Guide, you are not a rockhound.

Grieger's Encyclopedia and Super-Catalog

Grieger's, 1633 E. Walnut St., Pasadena 4, Calif., have been established 25 years and to commemorate this notable achievement they have issued their 25th Silver Anniversary Edition of their 1956 Encyclopedia and Super Catalog. This Super Catalog is a handsome edition of 224 pages, profusely illustrated, with an attractive blue cover, 8½ x 11 in. in size and sells for $3.00 (deluxe bound) or $2.00 (paper bound).

The catalog is devoted chiefly to items and supplies of the lapidary and jewelry arts. These items and supplies are not only well represented in all sizes or grades but the many large and clear illustrations adds fascination to the perusal of each page and makes ordering a pleasure.

There are pages devoted to help amateurs with their problems in jewelry settings, belt-buckle for gem display, silver soldering, jewelry making at home, automatic chain making, jewelry enameling, etc.

The Catalog is not devoted entirely to lapidary and jewelry arts. There are pages devoted to minerals, gems, fluorescence, prospecting, books, etc. etc. Remember, this is the 25th Silver Anniversary Edition of the 1956 Encyclopedia and Super Catalog—a credit to Grieger's, America's largest dealer catering to the amateur lapidary. Get your copy of this handsome catalog TODAY.

New Mexico Publication

Scenic Trips to the Geologic Past, by John H. Schilling. 26 pps. illustrated, 6 x 9. Published by the State Bureau of Mines & Mineral Resources, Campus Sta., Socorro, New Mexico. ..... Free

This is guidebook No. 2 and covers Taos, Red River, Eagle Nest, New Mexico, Circle Drive. Scenery, geological formations, mineral localities, etc., are mentioned in the trip which starts at Taos (center of town) and extends in a circular route for 96 miles ending at Taos (center of town).

Ohio Publications

John H. Melvin, Chief, Division of Geological Survey, Ohio Department of Natural Resources, announces the release of several new publications which will be of interest to all Ohioans as well as those concerned with mineral industries. All of these publications may be obtained at the Ohio Geological Survey, Orton Hall, The Ohio State University, Columbus 10, Ohio.

. . . .*Ohio Landform Map* by James A. Bier, 1956, scale 1 inch equals 20 miles. Single copy free, price 2 cents in quantity.

Mineral Industry Map of Ohio, 1955, by Robert W. Smith, printed 1956, scale 1 inch equals 8 miles. Free.

Summary of Oil and Gas Well Drilling Activity In Ohio During 1955 by J. C. Wilson and George Shearrow, 1956, in Annual Coal and Non-metallic Mineral Report for 1955, p. 147-175. Free.

Bituminous Coal Production In Ohio By County, 1800-1955, by Marian S. Klein, 1956, one sheet, 15x30 inches free.

The Ohio Landform Map, by James A. Bier, is a small (13x15 inches) map of the State which uses shading to show the hills, valleys, and other landforms of the State. Teachers will find this map useful in the teaching of Ohio geography and history.

The Mineral Industry Map of Ohio, compiled by Robert W. Smith, shows locations of mines and quarries of Ohio operating in 1955. Different symbols are used to distinguish coal mines, limestone mines and quarries, sand and gravel pits, and other mineral producers. This map accompanies the Annual Coal and Non-metallic Mineral Report for 1955 of the Ohio Department of Industrial Relations.

Survey of Oil and Gas Well Drilling Activity In Ohio During 1955 by J. C. Wilson, Division of Mines and George Shearrow, Division of Geological Survey is included in the Annual Coal and Non-metallic Mineral Report for 1955. Of a total of 1,234 new wells drilled in 48 counties of Ohio in 1955, 27.2 per cent were dry holes. Both crude oil and gas production increased over last year. The oil and gas statistics have in previous years been printed separately by the Ohio Geological Survey.

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DEALERS, write for wholesale prices.

When in Southern Calif. visit our retail store and largest Gem-Stone rock yard in the west (No retail orders by mail please).

We do custom sawing and tumbling, write for particulars first.

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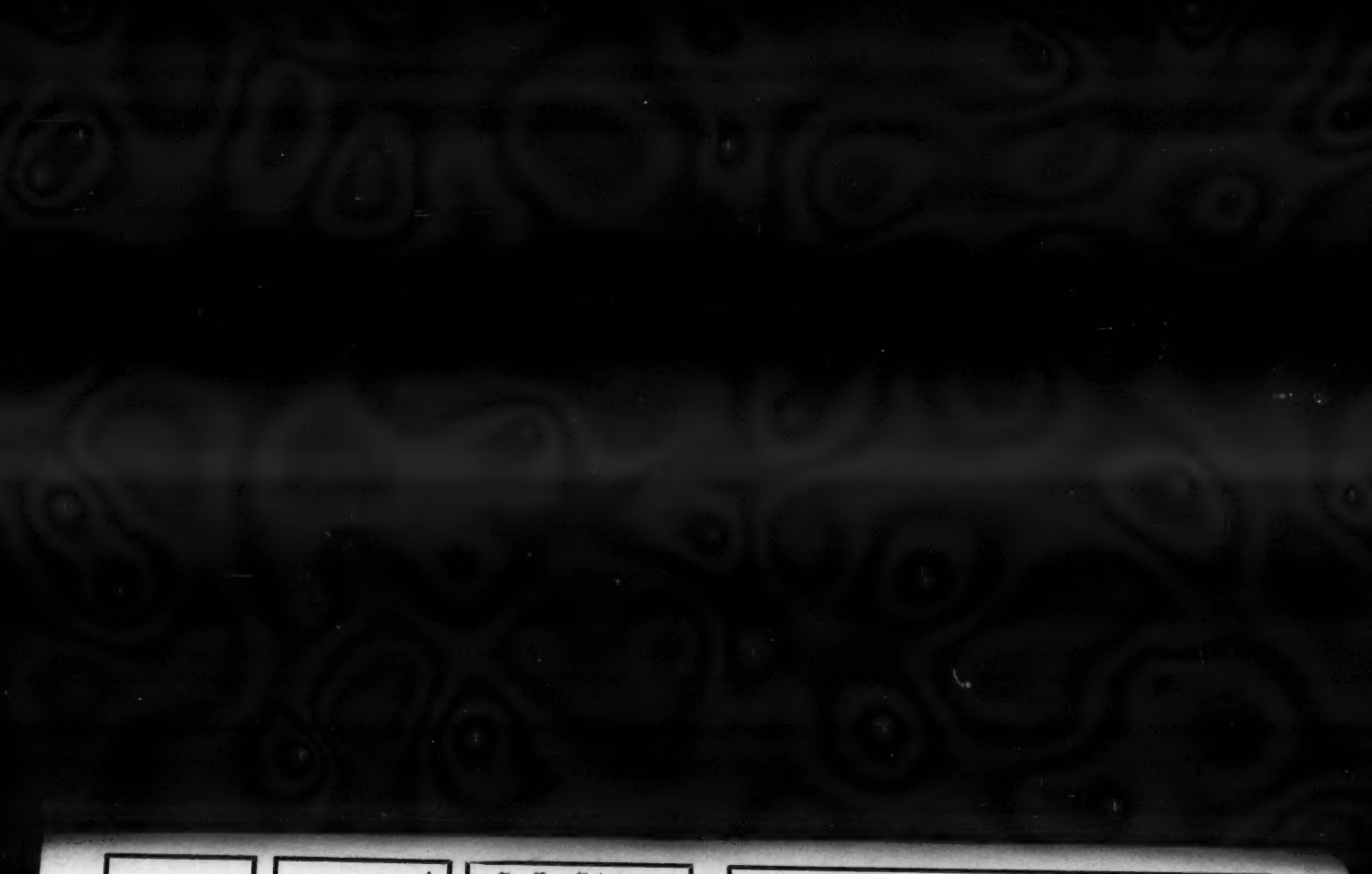
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